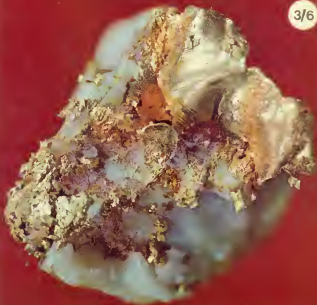


sputnik

MONTHLY DIGEST

April 1969

3/6



NATURE'S TREASURE-HOUSE
IN THE URALS,
HEARTLAND OF RUSSIA



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COVER: *Gold from the Urals. Picture by Stanislav Zimovsk.*
Other pictures by: Vassili Penkov (pp. 70-73), Stanislav Zimovsk (102-103), Nikolai Rukhmanov (106-117), Oleg Tsvetarskiy (118-127), Yuri Shkolovoi (128-131), Boris Kaufman, Fred Grinberg (138-143).
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LETTERS TO THE EDITOR

A good idea

I follow the "Letters to the Editor" section with great interest, and I notice that your country and the other Socialist countries are gaining in popularity among people throughout the world all the time. It is a specially good idea of yours to give the addresses of citizens of capitalist countries who want to correspond with us.

Correspondence of this kind helps to strengthen friendship and understanding.

As a keen amateur photographer, I enjoy your colour illustrations.

Nikolai Seber, Varna, Bulgaria

I can't agree

I should like to comment on the letter from Mr. Denis Render, of England (November 1968), who thinks you publish too much about the Second World War. I cannot agree with him at all, and I believe we have to write and talk as much as possible about it so that there is never such another terrible tragedy again.

It is we young people who must know what Nazism means and what its doctrines lead to, so that we do not allow anything of the kind to happen in the future.

It is difficult to keep silent about all the heroism and the deaths of millions of innocent people. It is difficult to keep silent when a neo-fascist party is active in West Germany, and when the racists have received so much support in the US elections. We must remember the war and raise our voices as loudly as we can.

I was particularly interested in your articles "SOS: Information Avalanche" (July 1968), "The Islands of a Hundred Volcanoes" and "Weather by Satellite" (September 1968). Something else I am very interested in, and I get a lot out of, is information about the life of the people of the Soviet Asian Republics. I could listen to their music, their songs, for days on end.

Lucien Flato, Krakow, Poland

Disappointed

It was with great interest that I read your article about Russian diamonds (May 1968), and I hoped to find similar articles in subsequent issues. To my disappointment I have not yet seen a single article about Russia's natural wealth since then.

Peter Hellander, Augsburg, West Germany

We hope the article in this issue entitled "Backbone of Russia" will put an end to your disappointment.—Ed.

Interesting and tantalising

I am afraid there has either been a misprint or a mistake in "Channel Lights" by Konstantin Paustovsky (December 1968). English laws about the employment of juveniles are stringent, and at the age of 11 Master Rodgers would be receiving full-time education. Perhaps it was an error for 17?

I very much enjoyed "Three Stages of Enlightenment" by Leonid Likhodeyev in the November 1968 issue, and Igor Sokol's splendid picture "Conversation", which appeared in the October 1968 issue, would make a glorious illustration for a children's book.

Would you, in future issues, consider printing the words and music of some Russian folk songs and others that the Red Army and other choirs have brought to the West? It is tantalising to be able to hear them on records, but not to be able to sing them oneself. How about "Kalinka" for a start, or "Soulko", or "Moscow Nights"?

And what about an article on Russian names, which often appear intensely confusing to westerners, with one version for a man, and a different one for his wife? It would be nice to know what your many nicknames are short for, and what are their western equivalents.

Please, would you also have a well-illustrated article on the Vladimir district, which is so beautifully evoked in "A Walk in Rural Russia" by Vladimir

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LETTERS TO THE EDITOR

Solovkhin. We should like to see these lovely lakes and forests, the historic town of Suzdal, the rowans of Nevezhino, the "wooden lace" of Ivanovskaya.

Some of your illustrations are really lovely, but alas, too small. Couldn't you enlarge a little?

Elizabeth Douglas, Liverpool, England

Konstantin Paustovsky, who was over 70 himself when he was in Britain, may have "sized up" Rodgers' age at 11, or he may have been told so by mistake. Whatever its origin, the error, if it be one, was in the story and we find it difficult to set the record straight for Master Rodgers' age.

We shall shortly be publishing an article about Russian surnames. For the time being, however, here is some light on the matter: usually the surname of a woman differs only by the addition of an "a" at the end of the man's surname (Mr. Ivanov—Mrs. Ivanova), or in some cases by the substitution of "aya" for the "y" that is the ending of some male surnames (Mr. Paustovsky—Mrs. Paustovskaya).

We shall soon start publishing weeks and music of Russian songs.—Ed.

Attention—Ambulance!

In the November 1968, issue of SPUTNIK there was a very interesting article headed "Agents 03—Licence to Save". Once a week I am a volunteer St. John's Ambulance driver, and I would like to know more of the ambulance and hospital services in the USSR, with photographs.

F. A. Haggart, Eastbourne, Sussex, England

Children wanted

I have been reading SPUTNIK from the beginning. I like it very much. But I would like to read articles about Young Pioneers, their clubs and camps.

Taru Pällonen, Helsinki, Finland

More recipes, please

My friends and I like to try out your Russian recipes, and the results are delicious! In Poland you can only find such

dishes at a few restaurants. Let us have more recipes!

Jan Galonczak, Gdansk, Poland

We are sure you must enjoy not only the recipes for Russian dishes, but also those of the other nationalities of the USSR. We shall give more favourites in future issues.—Ed.

With my best pen

My newsgiant introduced to me recently your very fine monthly digest, SPUTNIK. I must say that it has given me real pleasure to read such fine material, nicely balanced throughout the publication, so much so, I write with my best pen to tell you of my feelings. It is very nice for me to read about your wonderful country, as I have completed two years of study on my own, from scratch, with a half a dozen library books, of your fabulous language. I am learning fast and am now writing.

Ronald Howe, Harford, Hants, England

Pen-friends wanted

I would like to have pen-friends all over the world and will write to as many people as I possibly can. I am 19 years old.

Margie Travers, c/o 12 Fields Park Road, Newport, Mon., South Wales, Great Britain

I am eager to get pen-pals from different countries of the world. I am an engineer of 26. I know Mongolian and Russian and am very interested in the English language, which I am studying now. I will be very glad to receive letters.

H. Gold, Gaspetchrom, P.R.A., Ulan-Uator, Mongolia

I am a 23-year-old girl from Sweden and would like to correspond.

Gunnel Bergstrom, St Goransgatan 34, 75326 Uppsala, Sweden

I would like to have girl pen-friends from various countries of the world. I am 16 and my hobbies are: swimming, reading and gardening.

Miza Ng Sook Meng, 17 Berrima Road, Singapore 11

LETTERS TO THE EDITOR

I am very anxious to have pen-friends from all over the world. I am 22 years old and am very interested in movies, photography, philately and postcards. I can correspond in Russian, English and Polish.

*Edziste Jaros, ul. Koszyrski 71, m.40,
Bytom 6, Poland*

I would like to correspond in French, English and Spanish. I am 15 years old and am very interested in literature and movies. I am a French girl and a student.

*Lytiane Morales, Le Temple, 03 St
Poursain sur Saone, France*

I want to have pen-friends all over the world. My main interests are: pop music, art, sport and stamps. I know English, Russian, French and German.

*Frank Leunhardt, 26 Eisenstecker-,
8927 Dresden, DDR*

Although history and political science are my main fields of study at the University of Evansville, I would enjoy discussing the arts generally with anyone. I especially relish discussing political and social international relations since 1900. I can correspond only in English. I am 19 and a boy.

*Terry W. Cobin, 710 Olive Street, Evansville,
Indiana 47713, USA*

I am 14 years old and would like to write to a boy or a girl living in Europe, United Kingdom, USA, etc. My hobbies are pop music, playing the piano, and modern ballet. I speak English and am trying to learn Russian and German.

*Axax Pakiel, 25 Cheserfield Road, Grandrecht,
Cape Town, South Africa*

I would like to get pen-pals from different countries. I am interested in literature, music, foreign languages, movies, and I collect postcards and magazines. Can correspond in Spanish, Italian, French, English and Russian.

*Gloria Espino, Alcaide O'Farrill No. 111,
apto 18, Vibora, Habana, Cuba*

I am 37 years of age (but feel ten years younger), am still unmarried, live by myself in a country area, but work as an engineering draftsman for one of this country's largest manufacturers. My interests include science fiction, photography, hiking, tramping and camping, cooking, and the study of our Mann people and their traditional teaching and customs. I am also interested in astronomy and astronautics, and dream of being able to take a short holiday before I get too old on either Mars or the Moon—if I can afford to pay for it!

But please—English language only. I have forgotten nearly all the French I learned at school, and I cannot imagine that anyone would want to correspond in Maori. I will answer all letters.

*Mr. Garvan C. Leung, "Richmond Hill",
Glendale Road, Takapo, via Johnsonville,
New Zealand*

I am a boy of 22. I work in the Ceylon Development Engineering Co. Ltd. as a heavy-earth-moving-machinery mechanic. I would love to correspond with boys and girls, about my age, from all over the world. My hobbies and interests are collecting view-cards, reading, corresponding, films, travelling and sports. I like to meet people and get to know them.

*Das Leung, C/O M's C.D.E. Co. Ltd.,
Miyabaidara, Ambalantota, Ceylon.*

I want pen-friends in various countries of the world. I am 16 years of age and my hobbies are reading, correspondence, photography, world affairs, etc.

Faran K. Satharwal, 7 Barari Lane, Lankaota, Fiji.

I would like pen-pals in England, USA, Australia and all over the world. My main interests include pop music, stamps, literature and art.

*Angé Alberto Stockmisch, 946 Rua Marquês
do Herói, Santo Antônio, Rio Grande do Sul, Brazil*

I am keen to have pen-friends in all parts of the world. I am 18 years old and speak

English. My main interests are photography, films, sports and travel.

*Khongs G. Mehl, B-1 R/181, Shorshid, Fedral
"B" Area, Karachi-38, West Pakistan*

My age is 23 and my hobbies are collecting stamps and records. I love music, all kinds of sports, reading, travelling, films, magazines. Write to me in English, please.

Van Deesel Vic, 7 Gemeenteplein, Mervelt, Belgium

I would like pen-pals. I am a 14-year-old schoolboy. My main interests are travel, viewcards, pop music and jazz, cinema, geography and painting. I can write in English and Irish and I would be willing to teach anybody Irish.

*Hugo MacManus, 125 Angleson Road, Ballsbridge,
Dublin 6, Ireland*

I would very much like to correspond with female pen-friends in Europe and USA. I am a business worker, aged 32. I know German and English. I am interested in archeology, astronomy and space.

*Joz Hagimora, Niszei Saagyo Szekely 1-302,
Fujiguchi 2-7-3, Kohoku-ku, Yokohama City,
Japan*

I would very much like to get acquainted with young people of various countries, especially European countries. I am fond of art, particularly painting, and sports. I collect viewcards, reproductions and records. I also love music and movies. Can write Russian, Spanish, English, French.

*Vladimir Mirchev Iliev, complex "St Karafel",
Blac 2, Ph. B. ap. 16, Sofia-10, Bulgaria*

I am eager to correspond. My main interests include music, viewcards and collecting photos of actors. Can write in English, French and Russian. My age is 17.

*Kornelia Tchelenova, 48 bul "Vladimir Zaimov",
Sofia 4, Bulgaria*

We very much regret that we are unable to publish the names and addresses of all the hundreds of people who write in seeking pen-friends. Because of lack of space we now have to limit this service to Sputnik subscribers. **Editor.**

I want to have pen-friends all over the world. I am 21 years old. I know English, Urdu and Tamil. My hobbies are literature, reading magazines, and books, scientific discussions and astrology.

*K. Mohammed Samsuliah, The New College
Hostel, Madras-14, India*

I am looking for pen-friends from all over the world. I can correspond in English and German. I am 17 and am interested in mathematics and elementary education.

*Jeffith A. Ganan, 430 N. Oak Park, Oak Park,
Illinois 60302, USA*

I am 19 years old and am very much interested in collecting stamps, coins and viewcards, especially the ones concerned with various cities and seas. Can correspond in Russian, Polish and English. I am looking forward to letters from Asia, Africa, America and West Europe.

*Halina Rogalska, ul. Dobra 22/24, m.14,
Warsaw 35, Poland*

I am 19 years old. My hobbies are collecting stamps and viewcards. I could correspond with my friends in English.

Ahmed Sheban Al-Tikrity, Najif, Republic of Iraq

I am 16 years old and a student, who likes to correspond and exchange points of view with foreign friends. I know English and Italian.

*Pietro Ratti, Via Douzellet 24, 50047, Prato,
Italy*

I am eager to correspond with young friends from different countries all over the world. I am 16 and know Russian. Now I study English and German. I like music, dancing and modern art.

*Anastasia Diolen, Stambolchuky 20/B, Sofia,
Bulgaria*



CAMERAS CAUGHT LENIN

FOR POSTERITY

by Boris GALIN

condensed from LITERATURNAYA GAZETA

An album produced by the Art Publishers and entitled *Lenin in Photographs* is thought to be the first large collection of pictures taken of the leader of the October Revolution. In it Leonid Volkov-Lanin has brought together many obscure facts. These 130 photographs recall the events in the Smolny, headquarters of the revolution in Petrograd (now Leningrad).

The book also tells the story of the first Soviet photographers and cameramen who photographed Lenin in those epic days.

Pyotr Otstupa, who left some 40,000 negatives, including 35 rare photographs of Lenin, wrote, "With my clumsy big wooden box I shoved myself into every door, fixed my tripod, got under the black broadcloth cover and, completely out of place in the midst of a serious session, filled the room with the thunder and smoke of my home-made flashes.

I was politely asked to move through one door, but, obsessed by the idea of recording all key events, I came back through another."



I can remember Otsupa when he was getting on in years and later as an old man with an intelligent, lined face. But as I look at his pictures I see him as a young Press photographer of the revolution. I can see him entering the Kremlin with the cumbersome equipment he seemed to carry wherever he went. I can see him choosing the place to set up his camera in the study of the Chairman of the Council of the People's Commissars. I see Lenin helping him to move aside a potted palm to let in more light and then, while Otsupa is fixing his tripod and camera, I see Lenin become engrossed in reading *Pravda*. That was on October 18, 1918. Lenin was oblivious to the photographer's presence: with his head bent forward he went on reading, then he raised his head, apologized for the delay, and asked for the photographing to begin. Otsupa took a few more pictures. But the Chairman's eyes remained serious and thoughtful—the newspaper's report from the front had filled him with concern...



Here is a truly historic picture by another Press photographer, Grigori Goldstein: Lenin is addressing parting words to Red Army men as they leave for the front on May 5, 1920. He is surrounded by people in soldiers' greatcoats, leather jackets or military tunics. They are workers and peasants leaving for the front with the image and fiery words of Lenin in their hearts.

The photographer's records tell something of the history of the picture: "It was a dull cloudy day. In the gardens opposite the Bolshoi Theatre a platform of unpainted boards had been set up. Lenin was obviously in the grip of

strong emotion before he spoke. But when he mounted the platform his voice was resounding and his gestures, everything, revealed his certainty of victory over the enemy. I carefully scrutinised all his movements. There he stood, addressing the cadets, his body impetuously thrust forward, cap gripped in his hand. I immediately clicked my camera. It was with apprehension that I developed the negative—what if something went wrong? What if the plate were a poor one? Happily everything went well."

I find it difficult to tear myself away from that photograph, which conveys the essence of Lenin's nature, his faith in victory, his ardour and passion.





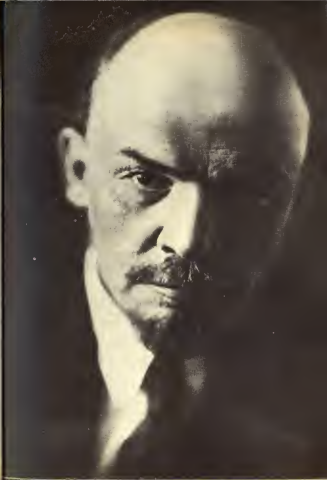
There are three pictures by K. Bulla. Seated on the steps near the platform, a folder in his lap, Lenin is seen listening to statements and taking notes at the Third Congress of the Comintern. Another picture shows Lenin writing with concentration, his head bent over the paper. In the third he has placed his folder and papers on a step and is bending still lower over his notes, intent upon the words of the speaker.





Lenin's meeting in the Kremlin with H. G. Wells is perpetuated in another study by Otsupa, on which the author of the album comments, "Hardly any other picture in this whole collection conveys so expressively Lenin's stances, gestures and facial expression."

One chapter entitled "A Photograph That Has Become a Work of Art" tells of Pavel Zhukov and the portrait he took of Lenin in July 1920. Zhukov was educated at the St. Petersburg School for the Promotion of the Arts and at the Rome Academy of Arts. During the revolution he was principal photographer of the Petrograd military district and later he presented the Government with 16,000 negatives, including this portrait of Lenin. On the day he was invited to take the photograph he had only a few plates left. Looking for a darkroom in which to reload, Zhukov rushed up a stairway and climbed into a big firewood box. He reloaded four plates and then went to see Lenin. The photographing took about 90 seconds. Lenin later carefully scrutinised the pictures and said they were "the first pictures in which I look like myself".





The Irresistible Sky

Vladimir Ilyushin looks younger than his 40 years. As suits a military man, he is punctual and methodical. He is also courteous with the instinctive courtesy inbred from childhood. He knows two foreign languages, is fond of music, draws, has written several stories and handles a cine-camera like a professional.

He is also known as one of the top test-pilots in the world. He has tested more than 70 types of aircraft, from helicopters to supersonic fighters. Fellow fliers say, "I" is as fearless in the air as he is loyal in friendship."

Eight years ago, Ilyushin was involved in a serious car accident. It seemed as though his flying days were over. However, his iron determination overcame pain, lameness, and the weakness of long inactive months. After he had a period of strenuous training, even the most demanding of doctors admitted that he was fit for active service. Shortly after his return to duty he established a new world record in high-altitude flying at constant speed.



Test-pilot Vladimir Ilyushin, Hero of the Soviet Union, is interviewed by a reporter from the magazine SMENA, Tamara Ilatovskaya

Question: You are a recognized authority in your field. In your opinion, what qualities are required of a test-pilot?

Answer: Ordinary human qualities plus, as pilots like to joke, a perfect mastery of all things that fly and a certain ability to fly things that do not have to fly.

Planes designed by your father fly the air routes of the world—as far as New York and Havana. His name is universally known. Was it family tradition that led you to flying?

Hardly. For a long time my parents were opposed to my flying ambitions.

Of course it's not surprising that the son of the designer of Ilyushin aircraft fell in love with planes. But gaining the right to fly was not easy.

My father's name opened the way to air-

fields. I was able to clamber into empty cockpits and even fly with the celebrated ace, Vladimir Kokkinaki. On the other hand, my name provoked mistrust: my interest in flying was thought to be imitative, sheer whim. The people who surrounded me treated flying very seriously, so even proving the earnestness of my desire to fly cost a lot of effort.

I first handled the controls of a plane, a PO-2, at the age of 16. That was in 1943, during the war. I used to cut out newspaper pictures of hero pilots and pin them over my desk.

In time, my dreams of fame lost their egoistic element. All of us then wanted to defend our country, and dreams of glory merged with a hatred for violence and a desire to defend man. Our common tragedy bred a

subconscious desire to be of use to our people—the only desire worthy of man.

A conscious understanding of this came later, but the sense of responsibility and common purpose came to us during the war.

After completing eight years of school, I dropped out and went to work as an engine-mechanic on an airfield. My goal seemed just one step away. A little longer and I would be able to go straight to the front as a pilot. I took pride in my oil-stained overalls and grease-blackened hands.

But before long Kokkinaki struck me off the flight list. When, dazed and shattered, I asked him for an explanation he said, "If you want to fly you must study. Aviation does not need amateurs."

I took it as an act of injustice and oppression and felt indignant. The dream which had seemed just round the corner slipped away. But what could I do?

I entered the preparatory department of a college for aviation engineers. In the daytime I worked at the airport and at night I crammed mathematics and other subjects of the ninth and tenth forms of secondary school.

However, college studies did not attract me, and I put in an application volunteering for the front. I was called up for service, but instead of the front, was sent to the Zhukovsky Air Force Engineers' Academy! As everybody knows, you don't argue in the Army.

In the beginning I sulked a bit. After a while my attitude changed and my studies seemed more and more interesting. Naturally, I never stopped flying—first the PO-2 with Kokkinaki, then a sports plane at the Central Air Club.

My ambitions, supported by studies, assumed a different form. My urge to fly remained as strong as ever, but I realised that I wanted to do more than just fly. I also wanted to improve flying techniques. That meant that in addition to improving my flying skills, I wanted to have a hand in improving the plane.

In a word, I set my sights on becoming a test-pilot. But the Academy turned out aviation engineers, so I made it a point to spend every spare minute flying. I flew whatever and whenever I could.

After the Academy I entered a test-pilot school. In short, by 1953 I was allowed to

make day or night flights in any type of plane. I was invited to join the test-pilot team at an aircraft factory. Several years later I began to test experimental planes which no-one had ever flown before.

Do you get any thrill out of a test flight, or are you wholly preoccupied with the plane?

Wholly. Our job is to test the designer's concept, his hypothesis, and to discover any faults in calculation.

Everybody knows your job is one of the most dangerous in the world. How do you overcome fear?

You control it. Of my five fellow-graduates—we formed one testing group in the Academy—one is already dead. Each flight involves risk. But this is the profession we've chosen, after all.

What does a pilot feel when he has to bail out of a plane that's out of control?

I don't know. It has never happened to me. Crashing an experimental model is a luxury we cannot afford. For one thing, too much effort has been put into it. For another, a completely wrecked plane buries the error of design with it, and the error will be repeated.

In every plane there's a bit of human ignorance, and it shows up in the sky.

You can't always avoid trouble, of course, and there was an occasion when the plane went into a spin and my hand reached towards the ejector mechanism automatically.

Everything was black. Black and silent, deafeningly silent. The plane was dropping like a stone. But it had to be kept up somehow, for no-one on earth yet knew what had failed.

The main thing at such a time is to maintain speed and keep the nose down. The earth rushes at you, you feel blind and sick. That was how a test-pilot I knew crashed to his death right on the airfield a month ago. If you lose speed the plane's out of control. You fall with terrible rapidity. Pull the stick towards you. Cut down the speed! And then the air pushes you upwards. You see the horizon—that means you've brought the nose up. A shadow flits beneath the wing. It's the earth. A job. You're down. You're shaking like a jelly.

Can a pilot train himself not to be afraid?

I don't think so. But he can—and must—learn to keep himself under control. At a critical moment, he must be able to switch off

emotion and leave reason and instinct in charge. Any danger can be overcome if it's properly assessed. Keep a clear head, and your hands will know what to do.

There are no pathological cowards, and heroes are made, not born. It's all a question of training, above all self-training.

Tell us about a difficult flight.

All right, although I'd rather not think about such things. The way people are made, they tend to take all the nice pleasant things as their due. Afterwards you just have a vague sensation of pleasure. But when it comes to failures, mistakes, even the slightest unpleasantness, those really leave their mark, put you off balance for quite a time.

So that's another thing you have to train, your memory. Don't let it dwell on the worst of past experiences. Every day there are new problems.

One day—it was a lovely dewy morning, I remember—the chief engineer and I walked through a field of dandelions towards the "airstrip", a long stretch of ploughed land, soft and lumpy, not easy for a plane to take off from. It was to be an ordinary test-flight, but with "overcooling". Everything had been measured and calculated to the 8th degree, and I knew that step like the back of my hand.

I asked for permission to take off, and away I went. The engine was roaring and I had plenty of speed to rise, but the plane simply wouldn't lift. It seemed glued to the ground. I began to realise that things had taken a serious turn, and even began to see miscalculations on our part.

In front of me was a fence of concrete posts and behind it railway tracks. If I heaved there was no chance at all. There was only one way out—to take off. With both hands I pulled with all my might on the stick, a purely reflex action as it was pulled back to the limit anyhow.

With every second those concrete posts were rushing closer. And still the plane refused to lift. But I began to feel that the humps were getting lighter. The fence was very near when I felt that we had finally parted company with the earth. My heart stood still—I thought the wheels would graze the fence—but we cleared it. My heart began to pound like a sledge-hammer and I gasped for air like a fish

out of water. In those few seconds I had exhausted myself to the point where every muscle in my body ached.

When I landed I felt triumphant, exhilarated even, and I rushed towards the chief engineer, but he sat, cradling his head in his hands, trembling.

What traits do you like best in people?

Sincerity and truthfulness. I think everything else hangs on that. If a man is a liar, all else follows. Liars and hypocrites betray friends, they have toppled States. Truth and falsehood are the two poles of history. Historians often seek middle ground. But I think a man between truth and lies is not a liar.

Our profession is based on accuracy. There can be no two truths for the pilot. Insincerity is an attempt to deceive, the truth is an attempt to help. Perhaps because fliers have to depend on mutual assistance, their friendships are firm and lasting.

Many people in our country are fond of the French flier and writer, St. Exupéry. Are you?

He is close to me—as a flier as well as a man. He has told of the brotherhood of pilots better than anyone else. He said that one part of man's work feeds him, another creates him. What creates us is the selfless dedication we bring to our work. In flying there is a lot of this "selfless dedication".

Each flight is the result of the co-operative efforts of scores of people—engineers, pilots, mechanic; ask them if they baguette time or energy! A friend of mine says that all pilots have a bit of the artist in them. Perhaps it's an exaggeration, but there's something in the thought.

Did you ever have a hero, someone you wished to be like?

You know, that's something like the spike that a mountain climber drives in, hoists himself up on, pulls out and drives in a foot higher. As I changed, the men I admired changed.

Sages have advised that dreams should be exchanged for knowledge. It's more dependable. There comes a moment when, instead of emulating, you should take a look at what you've achieved yourself.

The important thing is to advance, to improve, even if slowly.



The venturesome four who set off in mid-January from the Baikonur Cosmodrome aboard the *Soyuz-4* and *Soyuz-5* to carry out docking manoeuvres in space. Left to right: Alexei Yeliseyev, Yevgeni Khrunov, Vladimir Shatalov and Boris Volynov.

Baikonur space quartet





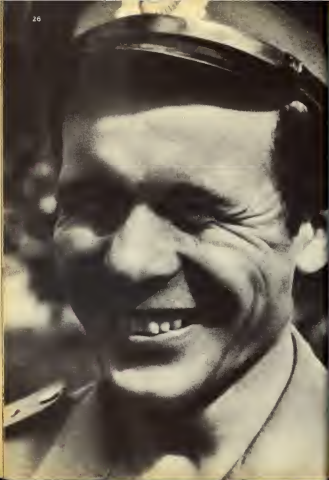
Alexei Yeliseyev is a 35-year-old design engineer. Married (his wife, Larissa, is also an engineer), with one child, Lena, aged 8. Keen on sport; was quite a fencer in his student days, and holds the title "Master of Sport".

On January 15 Yeliseyev, in company with Boris Volynov and Yevgeni Khrunov, shot into space aboard the *Soyuz-5* spaceship, entering a terrestrial orbit.

There they kept a rendezvous with Vladimir Shatalov, commander of the *Soyuz-4*, launched a day earlier, and Yeliseyev and Khrunov stepped out into the void to float across to the other spacecraft.

The two vehicles parted company, and on January 17 the *Soyuz-4* returned to earth. The following day Boris Volynov landed the *Soyuz-5*.





Yevgeni Khrunov is 35, a graduate of Zbukovsky Military Aircraft Engineering Academy. In 1965 he was back-up for Alexei Leonov, first man in the world to step out into the cosmos.

Khrunov has now followed in Leonov's footsteps, he and Yeliseyev becoming the first cosmic postmen. After transferring to the *Soyuz-4*, they handed over to Shatlov letters, telegrams and the latest newspapers, received since he blasted off from Baikonur.

Now he has been in orbit, Khrunov (seen in bottom picture with his wife Svetlana and son Valeri) can expect constant cross-questioning from Khrunov junior on how to join the cosmonauts' club like Dad.





Vladimir Shatalov is 41, a graduate of the Gagarin Military Aviation Academy, oldest of the four cosmonauts. He already has a grown-up son (top left in picture). In the same photograph are Shatalov himself, his wife Muza and daughter Lena.

He has extensive experience as a military flier.



Boris Volynov is 35, a graduate of Zhukovsky Military Aircraft Engineering Academy. He was one of the two spaceship commanders in the January operations. Has two children—daughter Tanya (photographed with her father by the New Year tree) and son Andrei.

More details about the January flight in forthcoming issues.



SPOTLIGHT



by Vladimir Pozner

"Militia. . . ." The operator's voice was controlled, non-committal.

"Give me City Duty, please."

Bzzz . . . Bzzz . . . Bzzz . . .

"Deputy City Duty Zhybychkin listening."

It came so fast that the words seemed to blur: "Detytytychkin 'sning."

"Hullo, Pavel Vasilyevich. This is Pozner speaking. How are you?"

"Hi, dears," the voice, now a happy drawl, purred at me. "Where did you disappear to? Stomach trouble?"

That was an allusion to something I would have preferred to forget, I could just see Zhybychkin, dark tie, light blue shirt, navy-blue uniform decked with shoulder straps—two red lines and two stars meaning Lieut.-Colonel—cradling the phone to his ear and grinning that lazy grin that made him seem to be the most glibbie representative of the law since the Habeas Corpus Act was adopted: a conclusion that many have come to and direly regretted, myself included.

I had been asked to do a story on the Moscow militia and fate had ordained that I contact Lieut.-Colonel Zhybychkin. I presented my credentials and made it quite clear that I was nobody's fool and intended to see some real action. Zhybychkin presented his grin and said that, if I didn't mind

accompanying him on a routine job, he'd promise me some action later.

The "routine job" turned out to be a murder. The husband of a young woman, blinded by jealousy and vodka, had cut his wife's throat. This was not routine by a long shot: murders in Russia are so few and far between that they are labelled as "Ch.P.," the Russian abbreviation for "extraordinary event."

Zhybychkin had wanted to put my journalistic "I've seen it all" airs down—and succeeded beautifully. The sight of blood turned my stomach. After one glimpse of the corpse, I simply turned and fled.

So now, several days later, I was calling Zhybychkin for the interview I needed.

"Oh, my stomach is fine. I was wondering about that interview. . . ."

"Come around any time you want. You know how it is, my shift works round the clock, then we get a two-day rest. Why don't you drop in this evening?"

"Seven o'clock?"

"Fine. I'll have a pass made out for you. See you this evening."

To the foreigner in Moscow the words "Petrovka thirty-eight" mean less than nothing. To the Muscovite they are much more than just a city address. For the vast majority they

spell safety. For a small but active minority they spell danger.

Petrovka Street, 38, is the address of the headquarters of Moscow militia. This is where all the information concerning the seamy side of the giant capital's life is relayed to—fires, burglaries, lost children, accidents, brawls.

Piped in from patrol cars, local stations, railway Metro stations, the data is sorted out, sifted, analysed, followed up.

The heart of day-to-day activities is the City Duty room right in the centre of the huge yellow-grey building. There a seven-man shift takes in the calls, passes on information, holds improvised bilateral talks with patrolmen, keeps its fingers on the city's pulse: in short, co-ordinates the crime-fighting forces.

That was where I was to meet Lieut.-Colonel Zhybychkin.

As I walked in and went towards his desk, situated at the far side of the room, he looked up at me, waved me into a seat and kept giving rapid-fire orders on the phone. Then: "Mitrofanov, take over for me, will you? We have a few things to discuss with the comrade here."

Captain Mitrofanov nodded, and I followed Zhybychkin into a small back room. We set down and I got out my notebook, but Zhybychkin held up his hand, ducked out of the room and reappeared with a boiling tea kettle. He then opened a drawer from which were produced two glasses, two spoons, a jar of sugar, some sausage, black bread. Zhybychkin put three lumps of sugar in each glass, filled them with strong tea, sliced the sausage and bread, handed me two sandwiches, sat down, heaved a huge sigh of satisfaction and started speaking.

"He who believes in discussions on an empty stomach is a potential criminal. I am all ears—all the more so because my mouth is busy."

Zhybychkin bit off a huge chunk of bread-and-sausage.

"I've done a bit of research since I last saw you," I said, and at these words Zhybychkin began to grin, "but there are a few things I would like to get a personal answer to—three questions, to be exact.

"First, is there any special reason why people join the militia? I mean, do they have higher wages than the average man, are they privileged? Second, how far can a *militiioner* go while enforcing the law? Can he clobber a person over the head, for instance? Shoot when he sees fit? Third, is there any kind of contact between the militia and society; that is, do you regard law-enforcing as strictly the militia's prerogative or do you co-operate with the civilian body?"

Zhybychkin leaned back and looked thoughtfully up at the ceiling.

"You know, that is something I have never really thought about—why people join the militia. Privileges? Well, if you call being woken up at any hour of the night or called out on the job on Sundays, if you call dealing with the dregs of society a privilege, why then consider us to be the most privileged group in the Soviet Union. No, it's not privileges that attract us."

"Money?"

"Don't join the militia if you want to be rich," Zhybychkin took a sip of tea. "Here's an example: An engineer or doctor or teacher, or I don't know who, with 25 years of experience in his field behind him, probably makes around 200 roubles a month, right? Right. A friend of mine is head of a local militia station. A militia major with 25 years

of experience to boast of. As station chief he is responsible for the lives and safety of tens of thousands of people. His monthly wage is 160 roubles. There's your answer."

"Wait a minute, Pavel Vasilyevich, you mentioned that he was a major. You yourself are a Lieut.-Colonel. In other words, in the militia you have the equivalents of army rank. But in the army, as far as I know, officers get extra pay for their rank, the number of service years, etc. What about you?"

"We don't. Although, frankly, I think we should. But, come to think of it, that would really make us a military establishment, wouldn't it? And that would separate us, at least partly, from the civilian population, cause a kind of gap—and that would be wrong."

"I think that's clear. What about the second question?"

"You have to look back to understand certain things. Before the revolution the police were a caste. They could do—and did—what they wanted. Nobody dared squeak, but everybody hated the police and knew damn well that they were the most corrupt and vicious organisation in Czarist Russia."

"So after the revolution radical measures were taken to show to the man in the street that law enforcers existed for him, for his benefit."

"This was reflected by Mayakovsky. Remember how the poet put it? 'My militia safeguards me! My militia, that's the important thing."

"So physical measures were banned, dlobbering, as you said, included. No use of truncheons—what's more, we didn't even carry them. Guns only in the most extreme cases of self-defence or when after the most dangerous criminals. . . ."

"Didn't that put you at a disadvantage?"

"I suppose it did. I think it was worthwhile."

"And now?"

"Things are very much the same. True, at one time we thought of introducing truncheons, but after a short trial period we dropped the whole idea. Somehow we feel it's degrading when one man has a stick to beat up another man. Oh, yes, there are cases that call for physical force, but they are not that many and, another point, the less you tempt a man by giving him weapons, the more careful he will be about using the little he has."

"That brings us to the third and final question: militia-society relations."

"The ideal thing would be to have no professional militia force. Have civilians, non-professionals, do the job on a voluntary basis."

"That, however, becomes possible only when professional crime is virtually non-existent, when you only have things like disorderly conduct to deal with. This is the goal we are aiming for."

"Keeping that in mind, we try to have as many volunteers as possible to help us—and we have thousands all over the country. They help to patrol city streets, watch out for drunks, dangerous drivers, general nuisances, while we enforce the law and turn our attention to real crime. So I think you can speak of co-operation between the population and the militia."

The interview was over. I thanked Zhybychkin, said good-bye to the shift and took the lift down to the first floor. At the exit I handed my pass over to the man on duty.

"Sleep well, comrade," he said as I walked out.

And, you know, I did.

ICE HOCKEY:

AMATEURS v. PROFESSIONALS

by Anatoli TARASOV,
Coach of Central Army Team
and the USSR National Team
from the weekly FOOTBALL-HOCKEY

In September 1968, the Ice Hockey Federation of Finland invited the Central Army Hockey Team to Helsinki for an exhibition game with a team from the major league, HIFK. During that trip I had the good fortune to meet and talk with Carl Brewer, and in fact I had him in my hands for a short time when he took part in one of our training sessions.

Most hockey fans remember that Brewer was a professional who played for the Toronto Maple Leafs. He was one of the best defence men in the National Hockey League. After retiring from pro hockey, he regained his amateur status and played for Canada in the Vienna World Championship Tournament. His compatriots hoped he would help to regain Canada's hockey prestige of yesteryear. In NHL ranks from 1961 to 1966, Brewer had been a colourful, hard-hitting player, popular with both fans and sports moguls.



Anstol Tarasov, Soviet national ice-hockey coach, who has a debate, with sandwiches for points, with . . .

We, the players and coaches of the USSR National squad, had seen Brewer in action a number of times, but had never had the chance of a heart-to-heart talk with him. The opportunity presented itself in Finland. He had signed a contract as playing coach for the HIFK team and had come to Helsinki with his wife and son.

Carl Brewer donned his skates and pads to play in our exhibition game. There were times when he stayed on the ice for five or six minutes

straight. He worked with different lines, on defence and as a forward. It was obviously a serious business with him; he was intent on improving the technique and effectiveness of the players who were under his command.

During the game I tried to organise a kind of duel between Brewer and our players. I began giving special assignments to my boys who had different styles, skills and approaches, in order to observe how Brewer would handle them. However, time

. . . Carl Brewer, the well-known Canadian ice-hockey player, who has been both amateur and professional



ran out on me and I could not carry through this interesting experiment to the end. So I invited Brewer to take part in our training session the following day.

And I must say that this training session gave me a clearer understanding of this former professional player; I found the answers to a number of questions which had bothered Soviet coaches for some years.

Sports writers and broadcasters, as well as Canadian and American

"experts" on pro hockey, have often made claims bordering on the fantastic, in which the NHL pros were portrayed as unique giants. Whenever we asked them to compare Firsov, Starshinov, Ragulin, Davydov or Konovalenko with Hull, Brewer, Howe or Mikita they would shrug their shoulders, making it clear that such a comparison was out of the question—the amateurs still had a long way to go.

True, sports moguls from across the ocean have begun to act more

modestly in recent years. There have been obvious symptoms suggesting that certain values in pro hockey have been overestimated.

The amateur Canadian National Hockey Team, which Father Bauer and McLeod had so painstakingly and skillfully whipped into shape, began winning some games in training sessions with the professional New York Rangers and Detroit Red Wings. Yet in the past six years the Canadian team lost all its games against the Soviets at the World Championship tournaments. What is more, 29 of the 32 games (including exhibition games) that were played between Canada and the USSR in this period ended in Soviet victories.

The question

This gave rise to a question that allows hockey fans no peace of mind: could the national amateur teams of the USSR, Czechoslovakia and Sweden, regular prize-winners at World Championship tournaments, compete on even terms with Canadian professionals? In this respect our meeting with Brewer was especially interesting.

After the game the Soviet players were invited to an official reception, where we met Brewer and his charming wife. We sat opposite each other and talked for about two hours. Gradually our conversation veered towards the question: how would the best NHL teams, say the Montreal Canadiens or Boston Bruins, fare against Soviet amateur teams?

"If you came to Canada for a

series of games," said Brewer, "you would most likely win your first games, but then the professionals would start beating you."

I asked him to elaborate.

"The pros, as long as they are not beaten, do not even consider the amateurs as worthy opponents," said Brewer. "This, in all likelihood, will mean that they won't go all out. Still, that isn't the main thing. The main thing is your tactics. Your style of playing is so far unknown to professionals. But once they lose a game, they can reorganise themselves and take the necessary counter-measures, and that is when your best trump cards will be beaten.

"You could win at first because of your unusual style, for you really do play a different kind of hockey."

I wanted to argue the point. I took four sandwiches from a plate and placed them between us. I explained that as we understand it, hockey is made up of four main components: physical fitness, individual skills, tactics and each player's will to win. I proposed that we discuss to whom we should give preference in each of these components.

We began with general physical fitness. I said I thought our players were faster and more agile. They were strong lads, but did not always put their strength to good use when it came to man-to-man checking; this was partly because they lacked skill in this department.

Brewer tried to convince me that professionals were physically in good condition, could skate for longer periods than amateurs without

getting tired, and were always ready for some hard, bone-rattling bodychecking. He stretched out a hand to take the sandwich, but I objected.

"What about your amateurs? Are they not just as physically fit as your pros? Don't your players, amateur and professional, follow a standard method in training potential stars?"

Brewer thought a minute and then said Yes, when it came to general physical fitness he believed the Canadian amateurs and pros were about equal, though the latter had better facilities for training and were usually in better shape at the start of the hockey season.

"All right," I said, "tell me this. In Vienna was it easy or not to play against our Soviet boys?"

"It was tough," said Brewer. "Your players were fast and determined and kept up the pressure till the final whistle."

"Then perhaps the sandwich for general physical fitness is mine?"

Brewer agreed. The score was 1:0 in our favour.

Individual skills: "Your opinion, Carl?"

"I was always impressed by the free and easy way your boys handle the puck. Your passes are accurate and unexpected. Your boys have a unique way of stick-handling past an opponent. What is more, they do not stick-handle just for the sake of looking flashy. I believe your top players could make the line-up of the best professional teams."

I do not know whether it was my

persistence in the argument about physical fitness or his own conviction, but suddenly Brewer began pushing the second sandwich towards me. I refused to take it because I had my own ideas on the subject of individual skills. Such stars of NHL hockey as Hull, Mikita, Beliveau, Howe, Pilote and others have so far outclassed our players when one considers all categories of technical skills.

In particular, when it comes to power plays to get closer to the goal mouth, when it comes to shooting, slapping back deflected shots, straightening out ricochets, making trouble for the goalie, body-checking alongside the boards—Canadian professionals are better. They perform more reliably and with a certain artistic flair.

Having said all this, I proposed that in the division of individual skills the Canadian pros came first.

The tactics

The third component is tactics. Brewer teed off immediately. He said that all the Canadian teams follow a single tactical pattern, which changes only if some player introduces something new, in a moment of inspiration.

Frankly, this statement by Carl Brewer surprised me no end. Time and again Soviet coaches had noticed that the Canadians followed a fixed tactical pattern. But now I was hearing it confirmed from the lips of an outstanding former professional.

I had no desire to begin a theoretical dispute. Everyone understands hockey in his own way. But I

also had no intention of surrendering first place in tactics. I reminded Brewer of the history of the official games at World Championship tournaments. I pointed out that international hockey moguls often spoke highly of our new tactics in decisive games.

Brewer listened attentively—I could see that he was weighing the pros and cons—and then he reached for the third sandwich. He picked it up and handed it to me. Once again we were in the lead: 2:1.

We had reached the last component—the will to win, "drive" or "hustle". For some reason Brewer was silent. Apparently he wanted to hear what I had to say first. To be quite frank, I was always impressed by the resolute will of the Canadians, their zest. They were merciless to themselves—and to their opponents, for that matter. Take the Canadian National amateur team in the past few years. They came out on the ice against us, it seemed, not so much to play a game of hockey as to do battle. Every single Canadian drove himself to the limit.

Brewer was waiting for my opinion. I took the last sandwich and gave it to him. He received it not without eagerness. But in giving this important hockey trump to the Canadians, I reminded Brewer that Soviet players were quite capable of standing up for themselves against any opponents, no matter how rough the play.

"Yes, yes," Brewer agreed. "I remember our tussles in Vienna. Your boys showed plenty of spunk."

It was a draw. We ended up with

two sandwiches each. The next morning our team was to have a workout and I invited Brewer to come along, not as a coach, but as a player. He accepted with pleasure.

The whole Soviet team was on the ice. The last man to come out of the locker-room was Carl Brewer, in the blue and white uniform of his one-time team, the Toronto Maple Leafs. For a veteran, he looked trim and fit.

The boys started warming up. Brewer, Alexandrov and Firsov had to do a sort of waltz in line down the ice, performing gymnastic exercises at the same time, jumping up and coming down to a crouching position, and passing two pucks among the three of them, then stick-handling past a player or checking each other. Our boys, who were all well acquainted with this drill, went through the routine with greater ease. Our guest, it was apparent, was not overly enthusiastic about the gymnastics. It seems Canadians do not go in for such stuff.

Mincement!

In tactical drills, when a forward line comes roaring down on two defence men in an effort to break through and score, Brewer feels right at home. At first I gave no instructions to my boys. Controlling the puck, they tried to outplay the Canadian individually, skating in a big arc. Brewer drove them into the corner and made mincement of them.

For a time he appeared to be an impregnable defenceman. Then some of our forwards, after trying a lot of fancy skating, changed the tempo

and charged straight into Brewer, without waiting until he bit them with a bodycheck. This appeared to jar the Canadian a bit. Then I asked Firsov, Alexandrov and Vikulov to play it sly and it turned out that, with a couple of tricks, our forwards succeeded in getting past Brewer more and more often.

But in these moments Brewer was simply brilliant. Almost every time our boys came close to him they found themselves in a real trap—not only the stick, but quite often an arm or head ended up tucked under Brewer's armpit; or sometimes their stick would be firmly caught between his legs. At times he would suddenly grab the attacker in a giant bearbug, but he executed this tactic with such artistry that a spectator would swear Brewer's opponent had rammed into him intentionally.

I ordered another drill for defence men in a square where five players passed the puck to each other on the go in order to outplay the two defence men. At the beginning, our guest showed a natural yen to play around with the puck; he "ragged" the puck time and again, thereby breaking up the play. When I pointed this out to Brewer he caught on quickly and then took a real liking to this drill. However, our defence men Kuzkin and Romishevsky went through this drill just as competently as Brewer.

Then it was scrimmage time. Brewer was tops in his own zone, especially if the attackers were slow and hesitant. Not only was it as easy as pie for him to take away the

puck; it was a pleasure to watch the way he would dump the attacker. But it was tough going for the Canadian ex-pro when the opposing forward was a fast-skating, tricky and stubborn player.

Brewer was good at setting up plays, though somewhat slow. By intuition, he easily intercepted a pass and set up a reasonable counter-attack. But when our players started some tricky passing around Brewer, when they quickly changed positions, he was often unable to stop such an attack.

It seemed to me that Brewer, as a defence man, could have played a more active game. He was never in a hurry to get into the enemy zone when he did not have the puck. He did not go all out to support his teammates' attacks, and left the enemy zone too early. Perhaps he was tired (it was more than two years since he had played pro hockey) or did not want to play a game tactically unlike his own. But whenever he had the puck, he almost never made a mistake in passing—his passes were incredibly on the nose and they paid off.

If Carl Brewer ever comes across these notes of mine, I hope he will not be offended with me for my experiment. After all, no one in ice hockey knows absolutely everything.

We are grateful to him for the interesting encounter we had. We learned much. And I hope that Brewer, as a hockey coach, also learned something from our talks and from our training session together in Helsinki.

USSR ACADEMY OF SCIENCES PAST AND PRESENT

condensed from *USSR Academy of Sciences:
Outline History*

by Georgi KNYAZEV and Anatoli KOLTSOV

and *USSR Academy of Sciences:
Headquarters of Soviet Science*

by Gennadi KOMKOV, Oleg KARPENKO, Boris LEVSHIN
and Lev SEMYONOV



IN THE CRADLE:
'Import of brains without hearts'

In 1717 Peter the Great (left) visited the Academy of Sciences in Paris. Shortly after, he was made an honorary member. This strengthened an intention he had had for a long time—to create a similar body in his own country.

What was known as the St. Petersburg Academy—the cradle of Russian science—began to function in 1725.

In the early years the Academy was staffed by foreigners. They were instructed by Peter to train Russian students. As often happens, some of these disciples soon surpassed their teachers.

While giving foreign tutors their due, the first Russian members of the Academy soon realized that the import of West European experts loaned by the Emperor was an "import of brains without hearts". Many of the immigrants never felt at home in St. Petersburg; they were little concerned with the needs and future of Russian science. Instead of co-operating in the main task that faced the Academy—the creation of Russian scientific personnel—in some cases, wielding administrative authority, they retarded the development.



Countess Yekaterina Vorontsova Dashkova (left), President of the St. Petersburg Academy from 1783 to 1794: "Observations and discoveries made in Russia have been reported abroad before they were published in Russia and, to the shame of the Academy, have been utilized there before they were in our own country."



MATURING:

The creative genius of a nation awakened

Despite all its "growing pains", the Academy soon developed into an incubator for culture and a powerful lever of progress in Russia.

For about 100 years all Russian science was identified with the Academy. But by the first quarter of the nineteenth century it had lost its unchallenged position. New scientific centres, scholarly societies, universities and special institutes had sprung up.

True enough, the Academy remained in the vanguard of Russian science. Many of its members won world-wide reputations.

The time had passed when foreigners smiled sceptically at Academician Mikhail Lomonosov's call to "show that the Russian land can raise its own Pлатос and ingenious Newtons." Nonetheless, the Czarist Government kept staffing the Academy with foreigners. Once the need had been dictated by a shortage of Russian personnel. Now it was dictated by a desire to ensure that the Academy was loyal to the throne: the political atmosphere in Russia was becoming heated.

In the latter half of the nineteenth century Russia's professors and students were swept by a revolutionary-democratic movement. Discontent with the regime began to ferment within the Academy itself, despite the preventive steps taken by the Czarist Government.

CRISIS: Need for a change

During the first Russian revolution of 1905, the general meeting of the Academy of Sciences approved a report by Academician Alexei Shakhmatov, the philologist, which stated that the Ukrainian Press was having great difficulties and demanded that the Ukrainians be permitted to publish books in their own language.

Later that year the Academy published what came to be known as the "Memorandum of 342 Scientists and Scholars", which placed the drawbacks and needs of Russia's public education on record. Among the signatories were many members of the Academy. They were castigated by their President, Grand Duke Konstantin Romanov, a brother of Czar Alexander II. His circular letter said, "Before wandering into discourses about the need for political freedoms, the members of our scientific, scholarly and higher educational institutions should have first renounced the remuneration which is extended to them by the Government which they are censuring."

"We are paid our salaries not in order to keep from censuring the Government," said the official retort drawn up by Academician Shakhmatov, "but in order to enable us to work for the benefit of the Russian people."

As for the Government-distributed people's funds, the Academy saw very little of them.

Even members of the State Council budget board admitted that the 2,750 roubles appropriated for Academy publications "is simply indecent for the institution which stands at the head of Russian science". The physiologist Ivan Pavlov, Nobel Prize winner, paid his laboratory assistant out of his own pocket.

"It is difficult to convey the deplorable impression left on us after a visit to this temple of science, which any State, notably one such as our rich Motherland, should take pride in," members of Russia's Duma (Parliament) wrote after inspecting the Academy shortly before World War One.

Scientific progress was made, of course, but it was mostly stimulated by the personal initiative of enthusiastic researchers working independently or aided by wealthy patrons.



TURNING POINT 'Magnificent lesson in stoicism'

The turning point in the history of the Academy was the Great October Socialist Revolution of 1917.

LENIN: "Previously, all human thought worked only to give some people all the benefits of technology and culture and deprive others of the barest necessities—enlightenment and development. Now all the miracles of engineering, all gains of culture, will become the property of the entire people."

From Czarist days Russia had inherited an underdeveloped industry and an unproductive agricultural economy. Within the shortest period of time possible, it was essential to overcome the technological and overall economic backwardness reigning in the country. The new Government, naturally, expected assistance from the Academy.

Some Communists believed that this institution, which for some 200 years had served the Czarist regime, first had to undergo a drastic reorganisation before it could be assigned the job of Socialist reconstruction of society.

Lenin strongly objected to such hare-brained reformism. "We do not invent the organisational forms of work. We take them ready-made from capitalism," the Soviet Head of Government wrote.

It cannot be said that co-operation with the Academy was achieved smoothly or at once. Many of the experts displayed mistrust and even hostility towards any new measure taken by the proletarian State. But sooner or later they themselves became convinced that the undertakings of the new Government were of a progressive nature.

In 1919, despite the critical financial position of the Soviet State, the Council of People's Commissars adopted a resolution "To Improve the Situation of Scientific Experts". The Soviet republic found the means to create normal working conditions for the scientific community.

Directly following the overthrow of the autocracy, the Academy of Sciences was given autonomy. Previously the President had been appointed from on high. Beginning in 1917, for the first time ever, the academicians themselves elected their President from among their own number. The honour fell to Alexander Karpinsky, the geologist.

Democratisation continued in subsequent years. Gradually, nearly all the old-time intellectuals allied themselves with the new Government in the grand Communist-launched work of rebuilding Russia.

"I witnessed the stoic courage with which the creators of Russian science suffered hunger and cold," Maxim Gorky reminisced in later years. "I think that Russian scientists, by their life and work in the years of the intervention and blockade, have offered the world a magnificent lesson in stoicism."



RECONSTRUCTION: Planned or spontaneous?

In 1927 the Academy adopted a new constitution and rules to replace the old ones, adopted in 1836, which actually failed to reflect the existing situation.

The Academy made changes in its structure and functions and instituted a Presidium, composed of a president, two vice-presidents, a permanent secretary and academician-secretaries of two departments: Science and Mathematics, and Humanities. The Presidium was authorised to resolve difficult issues between general meetings or between sessions of the departments. The reorganisation permitted greater flexibility in management.

The new constitution proclaimed the principle of planned research in line with the planned structure of the entire Socialist economy. But research had never been planned before and the Academy members had no experience to fall back on. Besides, some of them thought planning an act of interference in "the free flight of creative thought", which the framework of any "assignment", they claimed, would cramp.

Such apprehensions arose from pre-revolutionary academic practices. In the old days scientists and scholars had worked on their own, within their own ivory towers, without support from the Government, with all hopes centred on their own initiative and, in many cases, supporting themselves on a private income.

The Soviet Union needed production research more than any other country. In the 1920s it was one of the most backward nations in Europe, in terms of economic standards and technical equipment. There was a severe shortage of people with a secondary school education, let alone university training. The general cultural level of the population remained low.

The Academy could not stand aside from the urgent problems facing its Government. Naturally, no one assigned it to "discover" this and that by such-and-such a date. But it was suggested that instead of individuals spreading their efforts over an infinite number of items, the Academy should study the situation and work out a strategy which would co-ordinate the efforts of both individual members and the institutes working under the Academy.



Alexander Karpiński (left), the first President of the USSR Academy of Sciences, from 1917 to 1936: "Close contact of 'pure science' with applied, including engineering, is essential. It is fruitful in both spheres of knowledge and constitutes a guarantee that the forces of nature and the forces of man will be utilised for the building of a new and better life, in all respects."

This approach to science has been justified by time and has become common practice in many countries. The speed with which nuclear energy was mastered and the progress being made in outer space are good examples of the efficacy of the method.

In 1930 the Academy's general meeting outlined a vast programme of work.

In those years, with a view to improving planning, the Academy enlarged certain establishments. The Botanical Gardens and the Botanical Museum were merged into the Botanical Institute, a large-scale scientific centre possessing the world's largest herbarium. Between 1928 and 1934, the Academy slashed the number of its commissions, laboratories and museums, but increased the number of research institutes from nine to 25.

At one time nearly all its institutions, with the exception of experimental stations, were concentrated in Moscow and Leningrad (formerly St. Petersburg). Beginning in 1931, the Academy established branches in the Urals, Transcaucasia, the Far East, and bases in Kazakhstan, Tajikistan and the Kola Peninsula. That geographic expansion brought Academy undertakings within the reach of the population of the country's backward regions. The fact that the Academy entrusted independent research to inhabitants of these areas not only increased the Academy's scientific production, but awakened the national consciousness of these previously oppressed nations and nationalities as well.



ON THE UPSURGE: A new generation arrives

Gradually the Academy was solving its personnel problem, an acute issue since pre-revolutionary times. In 1929 the Academy set up a post-graduate master's degree course as well

as a doctorate course. In 1940 the Academy numbered in its ranks 402 with a doctor's degree and 1,270 with a master's, totalling 36 per cent of all its researchers.

The Soviet younger generation of investigators advanced a brilliant galaxy of names which later became widely known. The list includes:—

SERGEI KOROLYOV, pioneer rocket-designer, later leading space-ship designer;

IGOR KURCHATOV, who in 1935 discovered a new type of radioactivity and during the Second World War headed work on what became the Soviet atom bomb;

PAVEL CHERENKOV, a physicist who as early as 1934 detected an effect which was given his name and won him a Nobel Prize;

NIKOLAI SEMYONOV, representing the older generation of Soviet scientists, who in the 1920s developed a theory about chemical chain reactions which, after the Second World War, won him a Nobel Prize.

Academician Abram Ioffé, who fostered a whole pleiad of distinguished Soviet physicists, said in reminiscing about those times, "We saw for ourselves the power of science placed at the service of man's happiness. Science is not an entertainment, nor is it a mere satisfaction of the mind's urge to know and understand things. Science is an invaluable instrument for changing life."

DURING THE STORM: Intellectual viability

In June 1941, Nazi Germany attacked the Soviet Union. In July the Academy began to move its institutions eastward. Some 20 per cent of the nation's researchers went to the front. Many gave their lives fighting the enemy. Most of the investigators who remained in their laboratories went over to working for national defence.

Kazan . . . That city, deep in the interior, sheltered scientists evacuated from Leningrad and other cities. They carried on their research. "For two weeks winter has been knocking at our door," Dr. Yakov Frenkel, a Corresponding Member of the USSR Academy of Sciences, wrote to his brother who remained in besieged Leningrad. "The cold is terrific and is made worse by cutting winds. So far, nobody here has any firewood. To get two litres of paraffin, you have to spend half a day in a queue . . ."

The Frenkels' lodgings consisted of one cubby-hole in a wooden house. The landlady graciously offered the Leningrad professor her semi-dark laundry room to work in. There, at an improvised writing desk, a sheet of plywood held on his knees, Dr. Frenkel wrote his monograph on the kinetic theory of liquids. In the author's own country it won a State Prize; in 1946 it was published in Britain; in 1955 in the United States and in 1957 in Germany.

Sverdlovsk . . . In November 1942, when savage battles were sweeping the huge expanses between the Baltic and the Black Seas, the Ural city was the scene of a session of the USSR Academy of Sciences, which met to observe the 25th anniversary of the 1917 Revolution.

"The passage of decades will witness the end of wars on our planet forever: not will erode the guns thundering over this session of our Academy of Sciences. We believe that our struggle for the unity of all nations of the world, brought together by common interests and indestructible friendship, will be a success," the meeting was told by Academician Yermolan Yaroslavsky, the historian.



Vladimir Komarov
President of the Academy from 1936 to 1946: "The Czarist Academy, in the years of its greatest flowering, consisted of five laboratories, five museums, one institute, two observatories, and 15 commissions. It had only 212 scientists and engineers on its staff. The USSR Academy of Sciences, during its quarter-century, has developed into a huge scientific centre uniting 76 research institutes and seven branches in non-Russian republics and regions, with their own network of laboratories, stations, commissions and societies. The staff of these institutions totals 5,000."

When the war ended in 1945, victory celebrations coincided with the Academy's 220th anniversary. More than 100 congratulatory messages were received from abroad. Dr. A. Pope, of the United States, said that the American delegates were amazed by the Soviet people's intellectual viability as well as their decisiveness and determination in removing the appalling ravages of the war.

PEACE:

Once more from ruin to rehabilitation

The war slashed the Soviet population by more than 20 million. This, of course, affected the Soviet economy and caused a shortage of personnel in Soviet science.

The Academy sustained immense material losses. The institutes, laboratories, observatories, museums and libraries in some places were destroyed or pillaged.

While helping the Government to heal the wounds of war and solve urgent tasks in the national economy, the Academy also had to keep pace with world scientific progress by conducting long-range theoretical research. In this, Soviet science drew on its pre-war experience of planning.



Sergei Vasilov (left), President of the Academy from 1946 until his death in 1951: "The prospects which are opened up by continually advancing science frequently prove to be much broader than long-range economic plans. Science must always keep ahead of its time. Only this will place it in its natural conditions."

In 1946 the Academy's general meeting adopted a five-year plan, which included research into 633 problems. The Soviet Government doubled the Academy's budget, increased its appropriations for purchases of equipment abroad, and took steps to improve everyday living conditions of scientists.

The Academy's financial position is illustrated by this table—

years	1912	1928	1934	1940	1946	1955	1961	1965
budget in millions of roubles	1	3	25	178	487	1,229	1,292	1,522*

The Academy proceeded to establish more institutes, more branches, as well as new bases. Three of the branches were raised in status to Republican Academies. By 1961 every Soviet republic had its own Academy of Sciences.

The expansion of the network of scientific centres, launched in the 1920s, brings obvious economic benefits. An example is the work of the West Siberian branch, set up during the war. "The mining explorations undertaken by that branch have been of such importance to the coal industry," says Academician Alexander Nesmeyanov, "that the annual economy achieved through the application of their results equals hundreds of millions of roubles and alone returns more than our expenditures on all the Academy branches."

The Academy's most important organisational undertaking since the war has been the setting up, in 1957, of its Siberian section, which has incorporated all its branches east of the Urals. In 1967 the Siberian section could boast of 44 institutes and 50 independent laboratories.



Alexander Nesmeyanov (left), President of the Academy from 1951 to 1961: "From poverty-stricken agricultural Czarist Russia to a powerful industrial nation; from a half-illiterate, backward land with a culture accessible only to a select few, to a country with general secondary education and 767 colleges and universities annually turning out more well-educated experts than the rest of Europe put together—such has been the path which we have been fortunate to traverse . . . From the early hydroelectric schemes to the era of atomic power stations, from the slow small acroplanes of the Civil War to the artificial satellites . . ."

*The figures are cited in terms of the old currency. In 1961 a monetary reform converted ten old roubles into one new one.

By 1967 the Soviet Union had more than 4,600 research institutions (as against Czarist Russia's 300), including 1,700 institutes, among them the Academy's 200.

REVIEW OF ATTAINMENTS:

Promise of the future

In 1967 the Academy research body numbered 30,000, its technical personnel another 70,000. The number of degree holders topped 11,000. And 44 per cent of the Academy-employed researchers are women. The academies of the non-Russian republics employ 9,200 women, 39 per cent of their total staff.

More than 60 Soviet nationalities are represented in the institutions. Vacancies are filled by competition. All the senior research fellows have to stand for re-election by their institute's academic council every five years, and junior research fellows every three years. In this way the Academy is ensured the most productive, promising scientific and scholarly personnel.

As in the past, full and corresponding members are nominated and elected. In 1964 the Academy received the nominations of 113 candidates for full membership and 479 for corresponding membership. These nominations were made following discussions at more than 1,000 research institutes, colleges, universities, State and public organisations. The Academy elected 28 full members and 51 corresponding members, including 11 winners of the Lenin Prize and seven Heroes of Socialist Labour. Moscow was the home of 44 of these scientists and scholars, and 35 came from all parts of the Soviet Union.

Another election, held in 1966, added 46 full members to the Academy and 78 corresponding members. Among the newly elected full members were Nobel Prize winners Nikolai Basov and Alexander Prokhorov, both physicists; Lenin Prize winner Nikolai Dubinin, a geneticist; and another Lenin Prize winner, Boris Petrovsky, a surgeon, now Soviet Health Minister.

Throughout its 29 elections, held from 1917 to 1966, the Academy has conferred full membership on 434 scientists and scholars and corresponding membership on 936.

In 1917 there were only 95 full and corresponding members, while at the close of 1967 the number had risen to 586, not counting 69 foreign members. Below is a table of their numerical distribution in the three departments of the Academy:—

Departments	Full members	Corresponding members
1. Physico-technical and mathematical sciences	111	196
2. Chemico-technological and biological sciences	62	107
3. Social sciences	31	79
Total:	204	382
Including the Siberian Section:	19	41

These statistics do not include members of the republican academies who have not been elected to the national academy.

MARCHING AHEAD: The Academy in the vanguard

In addition to the national Academy of Sciences and republican academies, the Soviet Union has four specialised academies. All were founded in Moscow. The Lenin Agricultural Academy has been in existence since 1929; the Academy of Medical Sciences since 1944; the Academy of Educational Sciences since 1943; and the Academy of Arts since 1947.

But the USSR Academy of Sciences remains the heart and soul of Soviet science and scholarship, their co-ordinating and directing centre and leading contributor.

The results of its work over the past half-century defy enumeration. Among its top achievements are space flights and atomic power stations. A common yardstick of scientific and technological progress is the number of specialised publications issued. The printed production of the USSR Academy of Sciences and the republican academies in 1966 was 80 times more than in 1913.

Between 1957 and 1967, 71 of the Academy's full members and 49 corresponding members were awarded the Lenin Prize.

Here is a list of members of the Russian and, later, USSR Academy who have won the Nobel Prize of the Swedish Academy of Sciences:—

Ivan Pavlov, physiologist, 1904; Ilya Mechnikov, microbiologist, 1908; Ivan Bunin, writer, 1933; Nikolai Semyonov, chemist, 1956; Pavel Cheremkov, physicist, 1958; Igor Tamm, physicist, 1958; Ilya Frank, physicist, 1958; Lev Landau, physicist, 1962; Nikolai Basov, physicist, 1964; Alexander Prokhorov, physicist, 1964; Mikhail Sholokhov, writer, 1965.

The USSR Academy of Sciences has itself, on more than one occasion, conferred its awards on foreign scientists.

The Academy continually expands its contacts with foreign research institutions. Every year the Academy holds some 20 international and national congresses, conferences and symposia, attended by thousands of scientists from all over the world.

The USSR Academy of Sciences is a member of more than 100 international scientific bodies. In 1966 it played host to more than 9,000 foreign scientists and sent more than 3,500 Soviet experts on missions abroad.

At one time foreign scientists helped the Russian Academy to get on its feet. Today the USSR Academy helps other nations to develop science and their own intellectuals.



To quote Mstislav Keldysh (left), President of the Academy since 1961: "Stimulated by the October 1917 Socialist Revolution, social progress will ultimately remove the danger of great achievements of science being turned to the building of means of destruction and oppression; the majestic forces which are being discovered and harnessed by science will be directed to the benefit of man."

EVEN SNAKES HAVE THEIR USES

by Boris SOPELNYAK

*from the magazine MOLODAYA
GVARDIA*



*He has his doubts
if it really makes
such a good neck-tie
after all.*

Cobras, gurzias, vipers—who wouldn't run if he saw one coming! In one bite the gurza secretes 200 milligrams of poison—enough to kill 100 men. It is also enough for more than 2,000 doses of valuable medicines, known as viprosal, lebetox and corbotoxine.

Viprosal is good for radiculitis, (inflammation of spinal nerve root), sciatica and polyarthritis. As for lebetox, it is a fact that victims of snake-bite die without losing a drop of blood, and this property of snake poison to cause blood to clot instantaneously is the principle on which lebetox acts. Hemorrhage from a deep wound in the stomach, neck or chest cannot be staunched by a clamp or tourniquet, and the victim will quite likely die from loss of blood. But a dressing soaked in lebetox and placed in the wound will immediately stop the flow.

Corbotoxin, a preparation obtained by Soviet scientists from cobra venom, opens up new prospects in the treatment of asthma, hypertension and various tumours, including some malignant ones.

Out of death comes life. But no snake will give up its poison unless it has some kind of victim, and the stuff is required by the pound if it is to be used for medicines. The answer is to catch the snakes and "milk" them.

It is a fairly simple business to "milk" a snake. You take a gurza, for instance, by the neck and give it the edge of a glass to bite on. In a few seconds some drops of the valuable poison will appear at the bottom of

the glass.

This can be done only once in three weeks, and after three "milks" the snake dies. As the pharmaceutical factories constantly need fresh poison, more and more snakes have to be caught all the time.

To catch or to run?

If you had a choice of trying to catch a snake or running away from it, you'd probably plump for the second. I would have done so myself before I became a snake catcher. Now I know it's easier to catch a snake than you might think.

I wander through a bog dotted with mossy hummocks. Not one tree stump or root, not one bushy shrub escapes my eagle eye. In my right hand I brandish a metal poker-like affair with a crook on the end, and in my left I carry a canvas sack with a ferociously hissing load inside it.

Suddenly I spot such an enormous snake that discretion seems the better part of valour. But I have a contract in my pocket, in which I have undertaken to catch at least 500 vipers. So far there are only a couple of dozen in the sack.

The snake is lying in the blazing sun pretending to be warming itself. In fact it is guarding its prey. I steal up to it, it flickers towards its hole, and I spring, pinning the viper down with my crook.

It bites viciously at the metal, at my boots, at everything in reach, leaving tiny drops of deadly poison.

Snap! I have squeezed the snake's jaws shut with the pincers and am picking it up. It flails furiously with

its tail, wrapping itself round my fist. Its fearsome, venomous fangs are no more than a third of an inch from my fingers.

My hand is sweaty and my fingers begin to slip. In another instant, it seems, the snake will wrest itself from my grip—which means that I'll probably be bitten. If the poison gets into a vein, that's probably the end of me. As the thought flashes into my head my fingers grip the snake convulsively. The viper gasps, grows limp. This won't do at all. What good is a crippled viper?

I relax my hold just a fraction. Then I put the tail into the sack and thrust the snake's head downwards. The viper turns about in an instant, and tries to burrow its way through to the outside. All the snakes already in the sack wriggle after it.

At last I get the mouth of the sack secured. I wipe the sweat from my brow, and realise I no longer have that revolting lump of ice in my chest.

But a man can get used to anything. In a couple of days you find yourself picking up snakes like firewood. You become more careless. And when complacency creeps in, danger is not far behind. It rears its head when you least expect it.

It happened to me.

The hunting had been especially good that day. But when I slipped the twentieth snake into the sack, it recoiled and leapt out. Its shortest route to the ground was via my left hand, which was holding the sack. It slithered down my arm.

The normal reaction would be to pull one's arm back quickly. But

that would have been fatal. Within a short distance the snake orientates itself by a kind of thermostat arrangement, and takes a bite at anything radiating warmth. But it does not attack an immobile source of warmth.

I had no choice but to wait until the snake jumped off my arm. If it occurred to the reptile to crawl under my shirt or on to my neck, I would not stir. There were still 19 snakes in the sack, of course, and they could also decide to play follow-my-leader. . . .

The viper crawled and crawled. By the time its head got to my elbow it dawned on me what I had to do. I cautiously took out the pincers with the other hand, gripped the snake by the head and popped it back into the sack.

Three weeks went by like that. Twenty-one days after vipers. Eighteen wearisome miles a day.

There were many duties to be carried out on our snake-hunting expedition—those of catcher, cook, scientific supervisor, cameraman and porter. But all the jobs were combined by two people—Arkadi Nedyalkov, Master of Science, an experienced catcher of snakes, and me, a journalist who had decided to become a snake-catcher for the time being.

Into the lists for love

I had been wandering about the bog for two hours and hadn't caught a single snake. Suddenly I came across a strange sight on a sheltered patch of green. At first I thought it was simply a fight. But as I looked more closely

I realised that it was an affair of honour.

Three pairs of males, grey, reddish and black, were hissing threateningly and hurling themselves furiously upon one another. With a smart rap on the head, a snake would push his rival aside. The one that had got the worst of it would lie still for a bit, then rise and return to the fray.

They did not use their poisonous fangs at all. The loser would simply slide away in disorder.

From a hummock, where she had a soft mossy bed, a great grey she-snake looked on lazily at the skirmishing.

Finally there were just two contenders left. Whereas the female had been looking on at the tournament with indifference so far, now she began to get excited.

She raised her head, then coiled herself into a ball. The protagonists grew quiet. There was a hiss from the female, a signal—and the stronger male flung himself upon his rather battered rival.

After that the improbable happened. The female rushed to the two claimants, and the three snakes entwined in one ball. In a second I had them in my sack, along with the hopeful males defeated earlier.

How to become a fakir

That is the question that has been bothering me all day, as we measure snakes and pack them in boxes.

The box is on the table and the snakes are in the sack. I remove the lid and take up one corner of the sack with the pincers, while my



*"Milking" time—
and the milkmaid
will have enough poison
to make more than
1,000 doses of medicine.*



*Samples of medicine
made from snake venom—
that tube on the right
might relieve your sciatica.
Bottom right:
crystallised venom,
from which the medicines
are obtained.*

partner takes the other corner. He removes the clamp, and then 40 snakes are writhing in the box with a dry, eerie rustling. While some are still being emptied out on to the top, others are already trying to burrow up from the bottom to escape. Immediately there are dozens of protruding heads.

Somehow or other we get all the snakes into the box. And after a breather we set to with the pincers again.

I take off the lid. A dozen snakes climb out of the box at once. But I am supposed to let one out, just one. *Crack!* Arkadi seizes a snake with his pincers and slaps it on the table. I chase the others back into the box and put the lid back on again.

He picks up the snake by its neck

and its tail. He examines it carefully. Then he holds a tape measure by it and announces succinctly, "Female, Black, 29 inches."

I scribble away, throw down the pencil and move back the lid again. Once more several snakes get out. He catches hold of one. He measures it. I write, fling down the pencil, move the lid. The cycle takes seven seconds. If you delay, your colleague is in danger.

Several times we almost slip up. One snake wriggles out of Arkadi's hand, and it is only because it has been rather flattened by its fellows that Arkadi's finger is not bitten.

The ones that are after my hand are more active, but they have to make do with my shirtsleeve. One of them becomes so infuriated that

Black adder poised for attack. It may be useful to remember that a snake can only strike if you are standing a third of its own body-length away from it.

it clings on with a deadly grip. I grab it by the neck and jerk it off.

When I look at my sleeve I am at a loss for words at first. There are two poisonous fangs in the cuff.

"Hm! Looks as though I've maimed that one."

"It doesn't matter," Arkadi consoles me. "It'll grow some more."

When I begin to feel dizzy from seeing so many snakes, when my hands begin to move sluggishly and are criminally negligent, when dusk starts to fall and we have to switch on the headlamps . . . then I find myself wondering about one thing only: how to learn the secrets of the fakirs!

"If only I knew how to charm them," I think. "They'd be lying on the ground, and all I'd have to do would be to say, 'Next, on to the table!'"

I decide to do something about it. I know one thing: the fakirs use music to influence snakes. I start with folk songs. Then I go on to some long-drawn-out operatic arias. To wind up, I recite poetry. But it is no good.

"What do you think you're up to?"

"I'd like to become a fakir—just for two hours!"

"If only you'd told me before!" Arkadi snaps. "I'll teach you. First

learn to pronounce this word, syllable by syllable. Char-la-tans! Got it? Now I'll show you.

"Fakirs usually work with cobras. Right? It looks effective. The cobra stands up on its tail, puffs itself out and sways back and forth. It's about to strike. The snake-charmer sits there with a mysterious look on his face, playing the flute. And the cobra couldn't give a damn for that plaintive melody. It can't hear it—got no ears!

"Snakes have only seismic hearing. That means that their bodies are receptive to the slightest tremors in the ground, but are completely unaware of airborne sounds.

"Incidentally, you've already taken the first step on the way to becoming a fakir. You remember the snake whose fangs came out in your cuff? That's how all the fakirs start. They give the cobra a bit of rag to bite, so that its fangs come out. But in a couple of hours a reserve pair appears—then the operation has to be repeated.

"Now that there's no risk, pick up your flute, your trombone, your poker, whatever you like, and wait. The cobra may remain in a threatening pose for hours. Annoy it. And as soon as it moves towards you, wallop it on the nose with your trombone. After all, the nose is the most vulnerable part of most animals.

"The cobra will have another go. You have another whack. You repeat the performance about 20 times.

"Then you can sit by the snake and play a tune on the poker.

"The cobra will hiss, threaten and sway, but it will not strike as long as

the object which has been used to strike it is there before its eyes.

"But in a month its fangs will grow again, and the cobra will be a deadly menace once more."

When we had fastened down the third box (each box held 50 snakes) I asked, "How about the boa constrictors at the circus?"

"Like the fakirs, the circus people have their 'bits of rag'. Only they're called safety precautions. Before going into the ring, the snake tamer puts his boa constrictor in the refrigerator for about an hour and a half."

"What's that for?"

"You remember how we caught vipers in bad weather? Cold also makes big snakes sluggish, weak and drowsy. In the ring, the tamer coils the sleeping constrictor round himself. But when the snake is warm and hungry, it's better to keep your distance. Nothing can help you otherwise."

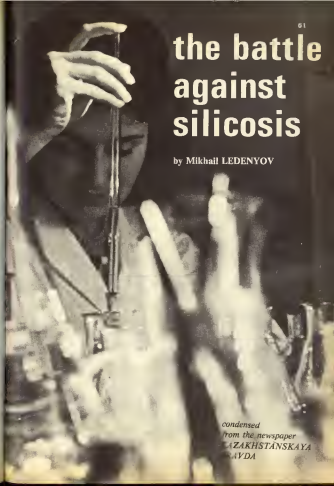
It was midnight, and we had nailed down the last box. Early next morning we loaded the boxes on a launch and left for Vologda. The cargo of snakes was flown to Frunze, capital of the Kirghiz Republic, where there are facilities for extracting the venom.

We spent three days getting well and truly clean, and sleeping and eating our fill. While we were doing that they were "milking" our snakes away there in Frunze. The venom they got was enough for 100,000 doses of viprosal.

Every mile we had travelled through the bogs meant health for hundreds of people.

the battle against silicosis

by Mikhail LEDENYOV



condensed
from the newspaper
KAZAKHSTANSKAYA
PRAVDA

How long will silicosis haunt the mines and quarries? Preventive treatment is the answer.

Silicosis is a pulmonary disease, or condition, which takes the lives of millions of human beings. It is caused by the systematic inhalation of quartz dust.

Silica particles cannot be completely filtered out of the air of mines, quarries, cement factories or building sites, not even by the most modern techniques. Of course, prevention measures reduce the danger.

No doctor can help an advanced silicosis case. Fresh prospects in fighting silicosis, however, are opened up by the work of a Byelorussian, Dr. Vladimir Matusevich.

Once silicosis was believed to affect only people. Matusevich, then an M.Sc. (Veterinary), decided to check this generally held view. If silicosis affects animals as well, he thought, experiments on them could discover the badly needed cure.

The scientist went to a desert in Soviet Central Asia: minute specks of sand, a pure silicon dioxide, give considerable trouble to the inhabitants. Hence, it was the best place in which to find silicosis-affected animals.

Dr. Matusevich examined thousands of sheep, cows and horses, microphotographing fine sections of their lungs. The results were compared (at the Central Research Institute of Labour Hygiene and Occupational Diseases in Moscow) with photomicrographs of lung sections of people who had died of silicosis. These studies confirmed the researcher's assumption: sheep and cows also developed silicosis. Hence, methods to combat silicosis could be tried on animals.

That discovery earned the scientist a doctor's degree. Nevertheless, investigation in this field proceeded slowly.

Dr. Matusevich launched a new stage of research. He knew that tractor and combine-harvester drivers, who work in clouds of dust, do not become silicotic; nor do many animals, although they breathe sackfuls of dust during their lifetimes. Why? Perhaps there was some force that worked against the action of dust in their lungs?

Research led Dr. Matusevich to the agrochemistry chair of the Odessa Agricultural College. Back in 1939 its holder, Professor V. Alexandrov, had detected bacteria of silicate

in the upper layers of the soil. These microorganisms turn silicon dioxide into soluble compounds, thereby destroying the dust specks. If only microbes capable of doing the same in lungs could be found!

In 1951 Dr. Matusevich finally obtained a culture of bacteria which can rapidly destroy particles of silica. The next step was to conduct extensive clinical experiments on animals in order to develop the needed medicine. But fate caused a diversion.

During an experiment, the scientist had one end of a rubber pipe driven through a trachea into the lungs of a ram while minute specks of silica powder were poured into the opposite end. The powder should have been blown into the ram's lungs by a pulverizer. But Dr. Matusevich forgot all precautions. Pipe in mouth, he was just about to blow into it himself when the animal coughed! The entire dose landed in the man's lungs.

The accident forced the scientist to conduct an experiment on himself. His assistant gave him the culture of anti-silicosis bacteria. A deep breath sent a pinch of microbes where the powder had settled.

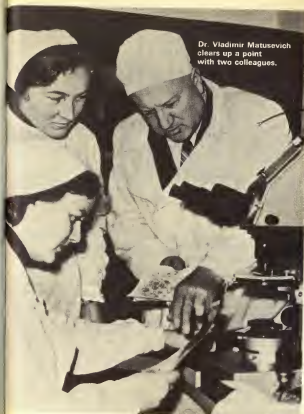
Dr. Matusevich continued the treatment, breathing in his medicine first daily, then every other day, for two weeks. Finally he went for an X ray examination, and his lungs proved to be perfectly clear.

In 1968 the USSR State Committee for Inventions and Discoveries presented him with a certificate for his important discovery: the silicate bacteria of stock culture M-2, developed by Dr. Vladimir Matusevich, it said, renders silicon dioxide harmless by assimilating part of it and leading the rest out of the organism.

Thus a preparation has been found to prevent silicosis. This does not fully solve the problem, as no effective treatment has so far been developed for people with an advanced silicotic condition.

For the past three years Dr. Matusevich has held the chair of Zoo Hygiene and Microbiology of the Agricultural Institute at Tselinograd, Kazakhstan. There he has been on the final stage of 20 years of research.

Now is the time for wide scale clinical investigations. When these are completed, the miners will probably inhale measured doses of silicosis-killer before going underground.



Dr. Vladimir Matusevich cleans up a point with two colleagues.

SECURITY GUARANTEES FOR NON-NUCLEAR COUNTRIES

Is there any guarantee for the security of States in this age of nuclear weapons and all-powerful means of delivery?

Is it the development of nuclear missiles by each country? But what country can compete with the super-Powers, which have such enormous quantities of these weapons that any other country would have second thoughts about starting with its own?

The best possible solution seems to be a radical transformation of the modern world, and in the process carrying out general and complete disarmament. But these things inevitably take a long time, whereas the international situation is such that a

solution must be found urgently, even if short of ideal.

As things are today, most States cannot rely on armed strength to protect their national interests. But it would be wrong to assume that no security guarantees whatever are feasible.

The evolution of international relations has not brought us to such a state. It has merely made things more complex.

The strength of such guarantees is no longer directly proportionate to the available number of bayonets and sahes or even of planes and tanks. Today it is expressed in a complex equation with many political and economic factors.

by I. VANIN

*from the magazine INTERNATIONAL
AFFAIRS, No. 10, 1963*

The fact that the United Nations General Assembly approved the non-proliferation treaty by an overwhelming majority shows that the nations of the world want to ensure their security, not by competing for more arms, but by limiting the spread of arms. The undertaking given by the non-nuclear signatories not to develop or acquire nuclear weapons is evidence of their readiness to seek security on a new basis, in line with the realities of the atomic age.



General Assembly decisions have repeatedly stressed that the fewer the countries possessing nuclear

weapons, the less chance there is of armed nuclear conflict breaking out. The unlimited spread of these weapons would threaten, not only the neighbours of new nuclear countries, but all other States.

Nuclear war and nuclear blackmail could start a chain reaction involving every continent. The possession of nuclear weapons would enable those who were so minded to stage dangerous provocations in various parts of the world.

So the treaty is a contribution to universal peace and to the solution of the problem of providing a reliable guarantee for the security of all States. It closes all the loopholes for those who might try to give non

nuclear countries access to nuclear weapons.

As its preamble justly points out, the treaty is an inherent part of the international arrangements for ensuring peace and security defined in the United Nations Charter.

The treaty creates favourable prospects for further efforts to reduce the danger of nuclear war, stop the arms race and promote disarmament.

When it comes into force, how are its non-nuclear signatories to be guaranteed against the threat of an attack involving the use of nuclear weapons by countries possessing such weapons? In the course of the negotiations, the Soviet Union took an understanding view of this problem, and for its part has done everything possible to take full account of the desires expressed by the non-nuclear countries.



The fullest and most effective protection against any nuclear threat would be the prohibition and destruction of nuclear weapons themselves.

The Soviet Union, which has been working towards this end for two decades, has repeatedly put forward concrete proposals on the matter, which would make all countries completely safe from the threat of nuclear war. The Western Powers must bear responsibility for the fact that this problem has still to be solved.

When the possibility of reaching agreement on non-proliferation first emerged, it was already clear that to aim at a package deal including the

hanning and destruction of nuclear weapons would mean achieving neither one nor the other. And it would be unrealistic to expect to solve the much broader tasks of nuclear disarmament within the framework of the non-proliferation treaty.

Nevertheless, in the attempt to move towards that goal and provide the non-nuclear countries with guarantees of security in return for their repudiation of nuclear weapons, the Soviet Government proposed the inclusion in the non-proliferation treaty of an article banning the use of nuclear weapons against the non-nuclear States which have no nuclear weapons on their territory. The Soviet Union worked for a long time to secure the inclusion of this provision, but the USA and the other Western Powers flatly rejected it.

The Soviet Union then took steps to get the problem of banning the use of nuclear weapons dealt with outside the framework of the treaty, on a parallel basis, submitting a draft convention banning the use of nuclear weapons to the 22nd General Assembly of the United Nations.

A ban on the use of nuclear weapons would be a serious deterrent for those who were thinking of using such weapons, and would go a long way towards improving the international climate, removing the suspicions of some countries that others intended to use nuclear weapons.

Such an agreement would not only provide appropriate guarantees for the non-nuclear countries which signed the non-proliferation treaty, but would also be of universal

significance, since it would protect any State against the threat of nuclear attack.

The task of reaching agreement to ban the use of nuclear weapons still remains the main objective of the forces for peace. However, a situation arose in which, despite the attitude of the Western Powers, a way had to be found to reinforce the security of the non-nuclear countries signing the treaty.

While it has been impossible to neutralise nuclear weapons for the time being, a fresh approach had to be adopted with regard to the problem of guarantees, in order to provide the non-nuclear countries with a shield against nuclear threats.

At the non-proliferation talks, the Soviet Union declared its readiness to support (provided the other nuclear signatories of the treaty agreed) the special Security Council resolution of June 19, 1968.

This provides that in the event of a nuclear attack, or the threat of one, against a non-nuclear State, the Security Council, in particular its permanent members possessing nuclear weapons, would immediately act in accordance with the United Nations Charter (that is, with the provisions of the Charter on collective action to prevent and remove any threat to peace).

Such a resolution would also confirm the inherent right to individual or collective self-defence in the event of an armed attack against a member of the United Nations (recognised by Article 51 of the Charter), until the Security Council has taken measures

necessary to maintain international peace and security. The USSR, the USA and Great Britain agreed on a draft Security Council resolution and the text of the identical declaration issued by each of the three Powers on the adoption of the resolution.

This declaration expresses the intention of the USSR, the USA and Britain to ensure or support, under the United Nations Charter, the granting of immediate assistance to any non-nuclear signatory to the non-proliferation treaty who may be the victim of aggression.

The Security Council resolution, together with the declaration by the three nuclear Powers, was a new and considerable element in ensuring the security of the non-nuclear States.



This step evoked criticism, ranging from the assertion that the documents concerned actually contained nothing that was not already in the United Nations Charter, to the opposite contention that the resolution ran counter to the Charter, as it created special privileges within the United Nations by ensuring the security of non-nuclear States which signed the non-proliferation treaty.

In fact, however, the Security Council's reaffirmation of its determination to act in the event of nuclear aggression, and the definition of the Council's positive attitude to the intention of the three nuclear Powers to ensure or support the extension of immediate assistance to any victim of aggression, are of

undoubted importance if effective use is to be made of the mechanism of the Security Council in the exercise of its main function, namely, the maintenance of peace and security.

The fact that the nuclear Powers have formally undertaken to work to halt or avert nuclear aggression gives deeper meaning to the principles of the United Nations Charter in relation to activity to preserve and strengthen peace.

Equally important is the timely warning given to any potential aggressor that its actions will be effectively repulsed, and that the victims of such aggression will receive the necessary assistance from the Security Council. Warnings of this type may prevent nuclear aggression.

There have been critical comments from the sceptics, on the security guarantees to the non-nuclear States provided for in the Security Council's resolution and the declarations by the three nuclear Powers. The critics expressed doubt if the Security Council would be able to take an early decision on measures to ward off nuclear aggression or wipe out a threat of that kind.

A reply to these critics was given in the speech by the Soviet delegate at the 22nd United Nations General Assembly. He emphasised that the Security Council resolution reaffirmed the right of individual and collective self-defence until the Council had adopted the necessary measures. He drew attention to the fact that "the provision concerning the confirmation of Article 51 of the United Nations Charter in connection with

the question of the security of non-nuclear countries has been submitted by the three nuclear Powers: the Soviet Union, the United States and the United Kingdom. This fact, we believe, speaks for itself."

The solution of the problem of guaranteeing the security of the non-nuclear States has been reached in strict accordance with the Charter. This solution does not go so far as to provide for automatic assistance to any victim of aggression, as some countries have proposed. However, that is not a defect of the solution adopted, but a realistic view of the political facts of the contemporary world.



Peking's sharply negative response is an indirect indication that the solution is an effective one.

No sooner had the 18-Nation Disarmament Committee brought out its draft Security Council resolution and the three declarations, than *Jenmin Jihpao* published an article on March 13, 1968, entitled "A Serious Step Towards the Knocking Together of a Nuclear Military Alliance Between the USSR and the USA".

The curious fact is that, apart from the usual abuse, it noted that "the raising of the question of so-called nuclear defence is in itself an affront to the dignity of all the non-nuclear countries and an encroachment on their sovereignty," and that "all countries and peoples of the world who really love peace are resolutely opposed to nuclear defence

by US imperialism and Soviet revisionism."

But China's neighbours think otherwise. Thus, India's representative, Mr. Parthasarathi, told the Security Council that while nuclear weapons remain in the arsenals of a few countries, the nuclear States have a definite obligation to guarantee non-nuclear States that their security will in no circumstances whatever be exposed to the use of such weapons, or the threat of it, and that such arms "would not be used as an instrument of pressure, intimidation or blackmail...."

"My Government would welcome

any steps that might be taken by the nuclear-weapon States in concert with non-nuclear weapon States to increase the effectiveness of the role of the United Nations for the purpose of providing security."

The treaty to stop the spread of nuclear weapons, and the measures connected with it, are an important achievement for the forces of peace in ensuring the security of the non-nuclear countries.

The sooner it comes into force, and the greater the number of its signatories, the better the system of security guarantees provided by this treaty will work.

A NEW MICROBE KILLER

A new fabric with permanent bactericidal qualities has been developed in the laboratories of the Moscow Textile Institute. It is made from natural fibres—cotton or linen—and is called Mtilon. The name derives from the initials of the Institute, M.T.I.

Bandages and dressings have been impregnated with various disinfectants in the past, but they retained their bactericidal qualities for only a limited time, and could not stand repeated washing.

Mtilon, on the other hand, retains its properties for years and is unaffected by heat or cold or innumerable washings. These fabrics have many uses—first as bandages and dressings, but also as filter cloths and filter "curtains" to sterilise the air flow in hospital wards, operating theatres and laboratories manufacturing such things as antibiotics.

Research workers at the M.T.I. have recently made a gauze dressing which is not only bactericidal, but also stops bleeding. They are now working on a fabric which could be used as an insecticide.

From the newspaper KOMSOMOLSKAYA PRAVDA

WOLVES

by Vassili PESKOV

from the newspaper KOMSOMOLSKAYA PRAVDA

"WOLVES ATTACKED SHUBIN STOP HOSPITALIZED".
read the telegram we received towards the end of 1968.

Georgi Shubin was an old friend, and I had met his wolves too. A hunter and one-time war scout, Georgi had taken up a rather strange profession. He trained wolves to be film stars. I'd always thought it was a pretty risky job, and now the worst had happened.

It all began eight years ago.

Hunting in the Ryazan woods, Georgi tracked down a wolf's lair and dug out six lean, snarling and snapping wolf cubs. A bounty is paid for every wolf killed, large or small, and in some districts a sheep is given in addition to the money. But for some reason Georgi spared two of the cubs and, putting them in a wicker basket, continued on his way.



*Loban, the wolf
who became a film star.*

After travelling for some distance he came to a reservation near the city of Vladimir, where films about animal life were being made. This was a turning point in his life and in the life of the cubs, too.

A cameraman with an experienced eye saw the makings of a fine wolf in one of the cubs. A wide-screen colour version of *White Fang* was under discussion, and there was a possibility of making the film in Alaska, where the story was set.

In the old pictures the wolves had always been played by dogs, but now a good pack of wolves had to be found.

The clumsy, half-grown cub, with his huge jutting forehead, looked as if he might be just right as the star of the film. He was named Loban and his skinny little brother was called Romka. These two creatures, not knowing what the future held for them, settled down to a new life far from their native Ryazan woods, and they soon got used to the human beings around them.

They were given to Dymka, a bitch whose puppies had been taken from her, and she devoted all her motherly care and tenderness to the wolf cubs. She tried to bring them up the way all good dogs should be, but had some problems. Sometimes she became utterly confused by the fierce play of the cubs . . . but she soon learned to give them a good cuff when they got out of hand. Loban and Romka came to love Dymka and even when they grew to twice her size they listened to her obediently.

A year later, a female cub was

brought to the reservation and she too was given to Dymka. She was named Mashka, and the following year, when she had grown as big as Loban and Romka, the three wolves and the dog were penned together.

They had all become quite familiar with Georgi Shubin, and he now took on their training. Every time he entered the pen, the dog and the wolf cubs became a whirlwind, twisting and turning and jumping in an attempt to lick his face. He always spoke to them in a firm but friendly voice, and with a pat or a scratch between the ears, he started their training.

He always had a piece of meat as a reward for good work and they all tried to do their best. They became accustomed to people, lights, cameras clicking, and without too much difficulty they gradually learned to be real stars, thanks to Georgi's love of animals and his patience and skill.

The greatest problem in the training was to see that while they presented no serious threat to the human beings with whom they would have to work, the wolves retained all their natural instincts. They had to remain bloodthirsty, powerful and ruthless. A real wolf was needed for the film, not a friendly dog.

Watching Shubin as he boldly rushed in to tear two fighting wolves apart or snatch back the meat he had just given them, I often felt he was walking on a razor's edge. The wolves growled and snarled and showed their fangs, but they remained obedient to his will.

For various reasons, the colour film of *White Fang* was not made, but the "stars" were never without a job. Loban took part in about 20 pictures. Loban and Mashka, who had taken to each other from the start, often played together and, like all film stars, they travelled a lot by plane and train. Films were shot in a reservation near Voronezh, another near Moscow, and on the island of

Barsa-Kelmes in the Aral Sea.

Like all wild animals, the wolves were very quick to express their antipathy or affection for people. Shubin was the only person who could enter their pen, and the wolves always greeted him with delight.

He was very proud of their devotion, and when we stood around the pen watching him with the beasts he would say, "Pretend you're going to

One of Loban's and Mashka's cubs.



hit me." The instant I made a move with my hand the wolves' fur would stand on end, fangs bared, and two pairs of eyes would be blazing fire at the offender.

Georgi was never afraid for himself when other dangerous animals, such as wild boars, were used in films. Loban and Mashka were always ready to protect their friend and trainer.

Domestic bliss

I have never seen a more affectionate pair of animals than Loban and Mashka. Wolves are naturally very faithful to their mates and both male and female share in the feeding and training of their young. If one of a pair is killed, the other often does not seek a new mate.

Sometimes at night they entertained us with a wolves' concert. Seated on their haunches, they would raise their eyes to the moon and howl—the long-drawn-out wails were terrifying to both man and beast—but for the wolves it was a song, a song of love and a call to the wild freedom of their own kind. Then they would stop abruptly.

Four years running, Mashka gave birth to cubs, but Loban and Mashka never knew what happened to their families for the cubs were taken immediately after birth and given to Dymka to raise and train.

Conflict

In the Spring of 1968, Mashka was expecting again. She had filled out and put on weight and had no

desire to take part in games any more. Unceremoniously she dragged Loban across the pen by his withers and made him dig a den. Loban obeyed all her whims and caprices.

On the evening of April 20, Georgi Sbutin went into the pen to see how the wolves were getting on. As usual, Loban was friendly and affectionate and jumped up to lick Georgi's face.

Mashka was lying in the corner of the pen. Georgi bent down to comb out a bit of last year's faded fur around her dugs. Every year he had helped the wolf prepare to bear her cubs. This time she wasn't too friendly, and that should have put Georgi on his guard, but he tried to treat it as a joke and gave her a friendly flick on the nose.

In a flash Mashka had sprung up, and with a snarl dug her teeth into his hand. The next second Loban was there, joining in. A man is no match at a time like that for a wolf which can throw a horse with one spring, and Sbutin's shouts of "Loban! Loban!" were unavailing.

He began to call for help. By the time help came and the gate of the pen was opened, Loban had sprung away and was crouched before Mashka, barring the way.

And what happened to the wolves?

Their career as film stars had come to an end and they were sent to a zoo. But they left behind them eight cubs, who, like their parents before them, were destined to be film stars. And their trainer is the self-same Georgi Sbutin.



CONSCIENCE OR THE ROUBLE?

*Are financial incentives corrupting?
Should man under socialism think only of
"higher things"?*
*Does talk of profit mean a return to
capitalism in the Soviet Union?*

These are some of the points raised in a widespread discussion on the economic reform introduced in the USSR.

Here we give a selection of letters published as contributions to the discussion in a leading weekly newspaper.

For about a month and a half a heated discussion raged in the *Literaturnaya Gazeta*. Many questions were raised: What will be the moral consequences of the economic reform introduced in the USSR? Won't harm result from this newly aroused interest in the economic factor—profit, income, profitability or lack of it? Don't we today lay too much stress on "the rouble", the material stimulus; might this not prejudice moral incentives?

It is noteworthy that plant managers, engineers and economists have shown just as much interest in this debate as the psychologists, sociologists and journalists. In view of the basic aims of the reform, however, it is quite natural.

More about this point later, but first here are extracts from some of the letters submitted as contributions to the discussion.

Money-grubber and opportunist?

Last week the chief designer called on me and said, "Our young engineer Vassiliev, a bright boy, is leaving us for the research institute nearby. They're offering him twice as much as he gets here. You see how money corrupts even our very best men?"

"No," I said. "I don't. I really don't believe the rouble itself corrupts anyone. It's not the rouble that's to blame, but the inept way that we handle it."

"We're going to embarrass Vassiliev, and tell him he's a money-grubber and an opportunist. But if we could pay him what he's worth, there'd certainly be no question of rouble corruption. On the contrary, we'd be saying that the rouble was a force for good, an educational influence, on Vassiliev himself and on

his colleagues, stimulating them to rise to his level.

"Altruism is no doubt a noble quality. But why should good pay necessarily label a man greedy? The man who works hard and earns a great deal also knows how to spend his money to make life a better thing. He doesn't usually go mad and order half a dozen pairs of trousers right away, or hoard his money under the mattress. He'll travel, study, look at the world, take part in activities useful to society, take pleasure in helping his friends.

"If a person doesn't worry about his own or the nation's well-being, gives little to society and expects little from it, what does altruism mean to him? High-sounding phrases? I don't trust such 'altruistic' types..."

*Nikita Ketyakov,
assistant manager of a steel works
in the Urals.*

A reply: Why did they shift?

I think you're oversimplifying the problem. From your point of view Vassiliev has at last fallen on his feet. He has managed to find a job which will double his earnings, and probably deservedly, as he is an able engineer.

You approve of what he is doing: "A fish seeks deep waters, man seeks a better place." What a primitive philosophy! One man has been lucky enough to find a better place, another has not. Perhaps he has never looked for one.

If a man is devoted to his job,

works conscientiously, gives much thought to innovations and inventions without caring whether he gets any bonuses for it or not, then what about him? He's just got his head in the clouds, or what? Or is he just not with it?

You and I are both in steel and you know, of course, about the large factory being built on the outskirts of Volodga, to the north of Moscow.

An old friend of mine, Ivan Novikov, recently went there. He has a great reputation as a blast-furnace expert, and is well known in Cherepovetz and Lipetsk and at the Kuznetsk Steel Works. He actually helped to build the Kuznetsk Works with his own hands—he started as a navy, and when the first blast-furnace was put into service he became a blast-furnace attendant.

He worked at Kuznetsk for 20 years and rose from fifth- to first-class attendant. He has won a great many honours, has been awarded several medals, and been mentioned in the Press. It looked as though he had settled down for good. He had a family house built with his earnings.

Then suddenly he went off to a new place. He was not the only one, for quite a number of other blast-furnace operators went off, too. They're all old hands; they knew very well what they were in for in the new place—lower wages until the blast-furnace gets going, housing difficulties, lack of modern conveniences, etc.

I was keen to find out what had prompted them to move. Their answers were always the same, as though they had agreed on them:

"Who else will get things going at the new works?"

My example is clear. And now take another aspect of it all. Is big money, honestly earned, always something commendable?

I know a young engineer who graduated from a polytechnical college, worked in an important research institute and had several scientific papers published. In fact, a promising young engineer. Then out of the blue he abandoned his research work and applied for a job at our plant.

I decided this young man would be a useful acquisition and I picked up the phone to call the head of our central laboratory. But he stopped me: "No, don't call him. I don't want to work in the lab. I'm interested in the blast-furnace. I want to make a thorough study of the smelting process." I thought this very praiseworthy.

He went to work as junior assistant to the furnace attendant. One year passed, then another, and he was still junior assistant. How much longer does he intend to study the smelting process? I wondered. I offered him the post of shift engineer. He refused. Then I suggested the technical section of the plant laboratory. Again he refused. Finally the mystery was solved: "Why should I move? As assistant to the furnace attendant I earn more than the senior engineer of the technical section, and almost as much as the chief engineer!"

Does that young man earn his big money honestly? Of course he does. He's even exchanged his

white-collar job in a scientific institute for hard and dirty work. You would consider him self-exacting: he's not afraid of any work, and one can take it that he really earns his money. Yet, as I see it, this man is nothing to be proud of. The State has spent a great deal on his training, but his sole idea is to make more money.

*Nikita Petrov,
factory manager.*

A come-back: Clean work and dirty

Why are you trying to prove such obvious truths? Of course people change their jobs for a variety of reasons.

I am all in favour of the rouble fairly reflecting the usefulness of any man. Don't we all know of cases of a man leaving a factory for an office, where the work is easier and the wages are the same? A man like that is not on the make, but out for an easier time.

I believe that easy, clean work should always be rated below hard and dirty work. Such an arrangement would put everyone on an equitable footing. Experience alone will show where the person in question will prove more useful: at the engineer's desk, or at the furnace, smelting steel.

Nikita Ketyukov

Here we have to interrupt the discussion for a few explanations. As has been stated, the discussion in *Literaturnaya Gazeta* is a continuation of the wider discussion on the economic reform now being carried out. One of the main problems is to

give people a material interest in the results of their labour.

Socialist enterprises continue to be national property and operate under a single State plan. But they have far more leeway than before. How to organise production, how to get the maximum profit, and how to distribute it fairly among those who have produced it—this is the sole business of the people at the factory, from the manager and planning officer down to the individual worker. Those who work to greater effect will get higher pay. The rouble is the indicator.

This new system had prompted some Western commentators to claim that in the economic field the Soviet Union is moving towards capitalism. This question has also been widely discussed in the course of the debate, and not only in *Literaturnaya Gazeta*. Here are some more letters.

State planning still fundamental

It is clear that even the most profitable Soviet rouble cannot open a private plant, a private agency, or a private shop; it cannot lead to a commercial free-for-all. State planning remains a fundamental of the Soviet economy.

For almost half a century, since the 1917 Revolution, the Soviet rouble has served as the measure of honest labour, and it is incapable of enslaving anyone. The fact that the rouble is playing an increasing role as an indicator of work done is something I fully approve of.

I believe that my fellow factory

managers and I should be judged solely on our plants' profits and losses. When correctly calculated, the profit rouble gives a fair assessment of all our "sins and virtues".

When a manager begins to express misgivings that excessive interest in the rouble might turn anyone into a frenzied profit chaser, one wonders whether perhaps the reason for his alarm is that the rouble might well reveal his own faults and errors. For our economic rouble is rather like Hans Andersen's ill-bred boy, who shouted at the top of his voice that the Emperor was naked.

All this has to be said, because if we are to carry out our economic reform, it is not sufficient merely to learn efficient management. One has also to learn to respect the rouble. We should talk more often about the rouble, and for everybody to hear.

*Sergei Baulin,
manager of engineering works,
Moscow Region.*

Here is the letter which actually started the *Literaturnaya Gazeta* controversy about the rouble, about conscience, income and morality.

You can't convince me . . .

Roubles, roubles, money, business. . . . This is all we hear about on the radio, all we read of in the papers.

For 50 years we have been taught to have a decent, human attitude to a man, a worker, uncontaminated by the chink of money. Now they've suddenly thought up something new: "I respect you if you bring in a profit."

I know you'll tell me that the profits go to the USSR for the general good. I know that already. I'm no fool, no bigot, and there's no need to prove that profit is more advantageous than loss. But what I want to say is something else.

It's painful that profit and material stimulus have begun to push into the background high standards of morality. In the old days, our forefathers used to say, "Let's speak of higher things, happiness is not simply money, man does not live by bread alone. . . ."

Can you convince me—not by pushing your adding machine under my nose—but by expressing yourself in terms of morality? I am sure you can't. . . .

*Nikolai Loginov,
worker, Orekhovo Zuevo*

Diversion for young ladies

Nikolai Loginov reminds us that, in the old days, our forefathers used to discuss things on a different level, taking as their premise "Money is not happiness", and "Man does not live by bread alone." It may be useful to remember the well-known fact that moral criteria and principles are determined by the economic conditions in which people live and work.

For centuries, those economic conditions were such that a man could grow rich and improve his standard of living only at the expense of others. It was precisely the economic conditions prevailing in everyday life and work that led to that counterpoising of the material and the moral

which Loginov considers necessary to take as the basis for discussion.

We Communists never shared this "noble" but naïve prejudice against material incentive, material interest. I want to remind you that Lenin, founder and first leader of our Socialist State, always ridiculed the idea that Socialism should be built by some special kind of people, scarcely lower than the angels. When the idea was advanced that we should first educate good, pure and well-trained individuals, and only then start building the new society, Lenin retorted that this was not a realistic policy but just a children's game, a diversion for young society ladies playing at Socialism.

Comrade Loginov will doubtless agree that, under Socialism, every worker should first of all be judged by his work, by what he gives society. Obviously, all other things being equal, we shall class as "top-rate" the person who produces a greater quantity of goods, of better quality, and at a lower cost than the rest.

At the present level of development of the Socialist economy, any indicator, good or bad, can be expressed solely through the medium of money or profit. Isn't it naïve to consider it right to respect a man who works productively, but insulting to expect profit? It is actually one and the same thing, the only difference being that, in one case, it is expressed in natural indicators—hours, quantity of goods, and so on—and in the second case, in cost—money and profit.

*Professor A. Birman,
D.Sc. (Econ.).*

Factors other than 'bread'

Material interests (wages and other income) have a powerful influence on a great number of citizens who are by no means greedy or grasping. But it is unfair to despise everything in life apart from "bread"—this kind of attitude debases the individual, and consequently the whole of society. And a policy which ignored all "other-than-bread" factors, and above all the moral and socio-psychological ones, would inevitably put a brake on the growth of labour productivity overall.

I once had occasion to observe closely one of those managers who run things as the fancy takes them. On the construction site he was a holy terror, with no regard whatever for personal dignity or self-respect. He would humiliate a man and punish him severely for failing to accomplish on time a task obviously beyond his capacity. Then, a little later, the victimised worker would be given premiums and rewards.

This manager would place a worker in the most trying physical and moral situation, yet would never forget to "square things" later.

You may ask how things ended for this great leader. In spite of the material rewards, people left at the earliest opportunity. The enterprise lost a great many good engineers, enterprising organisers—men with a sense of self-respect. The successes which had marked the beginning of the construction work soon faded out.

To my mind, not only in actual practice, but even in theory, one should never fill the minds of people (especially young people) with oversimplified concepts according to which a worker's needs, his incentive to work, boil down to his daily bread, to the rouble, to wages. . . .

*Vladimir Kantorovich,
sociologist.*

What incentives count most at work?

The psychology Faculties of a number of Soviet universities have for years been engaged in research to determine the importance of moral and other incentives in work.

In the Sverdlovsk Region, 325 workers were questioned. They were asked, "What is it you like best in your work?" Here are the replies:—

From 177, its variety; from 104, its complexity, the opportunity to work from blueprints; 25 replied that their motive was to earn their living; and the rest declared they were not satisfied with their work.

One woman, who had worked at a plant for seven years, said her work was monotonous, that she was going to change her occupation and become a hospital nurse. And she could hardly hope for higher wages in that profession.

*Ilya Peshkin,
journalist.*

Prosperity coupled with morality

You have been trying to prove that by no means every kind of work satisfies the Soviet factory

worker, engineer, office employee, etc., even if he is well paid. I don't see why so many words have to be wasted on this question.

Loginov's letter is no surprise to me: I can well understand him.

The moment the economic reform started, a number of journalists and compilers of enlightening pamphlets suddenly set out to console me: "Don't worry, despite the stress on economics, Socialist morality will not be ignored. Besides concentrating on profit and respect for the rouble, we shall also tackle the question of morality, concern ourselves with the moral attributes of Soviet man."

But what is the purpose of all those qualifications? Why *despite*, and *besides* instead of *together with* and *simultaneously*? Does a Soviet man get his income, his roubles, by clipping coupons from Lockheed & Co. bonds, instead of earning by the sweat of his brow?

On the other hand, does the expression "not by bread alone" mean "without bread"? In my opinion, the meaning of "not by bread alone" is this: it refers to a time when there is plenty of bread and, in addition, the satisfaction afforded by interesting and useful work, the joy of labour. This is where moral satisfaction comes in.

You can talk about things at a "higher level" when a man is well fed, well dressed and well housed, and does not have to exert all his energies to earn a living. Under Socialism, it is possible and necessary to count money without becoming its slave.

I am in favour of the union of the Rouble and Conscience; I am for coupling the highest prosperity with the highest morality.

*Samar Kadalurov,
Communist Party official on a
virgin lands grain-growing farm.*

A PAUSE FOR A PRIZE

Once upon a time, it was announced that a contest would be held to determine who was the cleverest person in the country. The winner would receive 3,000 pieces of gold. Every adult in the country sent in his name as a contestant.

The next day another contest was announced, this time for the stupidest. The prize was even bigger: 10,000. All the contestants, with the exception of three, immediately switched to the new competition.

The three received 10,000 pieces of gold each.

GEMS IN WOOD

by Dora GRAVÉ

from the newspaper
LITERATURNAYA ROSSIYA



*An exact model
of the wooden
20-domed
Church of the
Transfiguration
on the northern
Russian island
of Kizhi. Like
the original, it is
made without a
single nail.*

The old town of Vytegra, in north-west Russia, is noted for its many skilled craftsmen who have inherited their art from past generations.

One of these, Yefim Tverdov, is a man with an eventful past. He took part in the 1917 Revolution, fought in the International Brigade in Spain against Spanish, German and Italian Fascists, and was one of the first Soviet pilots to fly in the Far North.

Now Yefim is a recognised painter and wood-carver, taking after his grandfather, a noted wood-carver and potter who lived to the age of 119.

It is Yefim's ambition to find and use the lost axe of the legendary Russian master craftsman Nester, who is said to have designed and built the famous wooden 20-dome Church of the Transfiguration in the northern town of Kizhi. After he had built the church—without using nails, but only hidden jointing—Nester regarded his work and then threw his axe into Lake Onega: there

had never been such a church and there never would be again.

Yefim wants to fashion something just as wonderful. He has already carved a model of Nester's church, also without nails.

Some of his work is displayed in Vytegra's folklore museum. It includes some dynamic wooden figurines such as his "Flying Horse" with its streaming mane, apparently on the verge of taking off. Another is a doe who has turned at the sound of a shot and gazes back with mingled terror and reproach.

Also displayed are popular wooden toys. But Tverdov's best works are undoubtedly his models of white, many-domed cathedrals, masterpieces of the wonderful Russian architecture of the past. Made of aspen and left unpainted, they eloquently express the history of northern Russia's architecture, with its superb structures in timber created by talented yet unknown masters.



Not even the most carping eye could find any detail in which these miniature buildings in wood differ from their originals on Kizhi island.



Some of the healthier survivors of the Oswiecim (Auschwitz) concentration camp, with Soviet doctors and Red Cross representatives after liberation. Thousands of children like this were separated from their parents during the war, and Agnie Barto makes constant efforts to reunite the families.



LOST: TWO SONS

by Agnie BARTO

from the magazine ZNAMYA

For some people the Second World War meant alarming reports in the Press and on the radio, and distressing news that somewhere at the other end of the earth a neighbour's son had been killed.

For others it meant incessant bombing, the sinister howl of enemy planes spelling death to the old folk, women and children left at home.

For still others it meant the loss of 20 million lives and a period of incredibly bestial Nazi occupation; it meant death wresting mother from child, brother from sister. We Soviet people were in this third category.

It is now 23 years since the war ended, and in the main we have triumphed over its consequences. The ravaged towns and villages have been reconstructed and thousands of new ones have been built. The dead have not risen from their graves, there are no miracles in this world, but millions of people have been born who respect the memory of their fathers and are continuing their cause. But . . .

There are still many, many more who were wrenched by war from their parents; when they were still very small, they were picked up by total strangers on bombed transports, in gutted villages, in empty fields stinking of Nazi tanks—they were picked up and adopted. Many of them do not know their real surnames, their precise age, their place of birth. They do not remember their mothers, but they are certain that to this day their mothers weep for them.

To seek a person's family when he remembers his own surname and knows where he was born, when he can tell you the names of his nearest and dearest, is a relatively simple matter, and there are official bodies existing for the purpose. But what about those who remember nothing, or virtually nothing? Those who were torn from their mother's side when they were not yet five?

Agnia Barto, on whose verses and stories more than one generation of youngsters has been brought up, has devoted herself to the search for lost children.

On the 13th of every month, at 7.30 p.m. Moscow time, *Majak* radio station features Agnia Barto's programme "Missing Persons" She has been conducting the programme for four years, and in that time has helped bring together 330 families.

Recently Agnia Barto had an article published in *Znamya* about the work she has been doing in this sphere. Here are extracts.

From a broadcast:

Mrs. Alexandra Perevozkins, mother of two children, asks you for help, and I support her plea.

Alexandra Perevozkins, her husband and their two sons, Nikolai and Valeri, lived in the town of Tschonovets (now in the Bialystok Province of the Polish People's Republic). In 1941 her husband died. When the Nazis

attacked the USSR, the mother and the boys, along with a neighbour, Xenia Golubeva, who had a small daughter, hastily evacuated. Just as their cart reached the outskirts of the town bombing started, and the women hid in the woods.

Suddenly Alexandra Perevozkins remembered that she had left her documents at home. She rushed back, and when she returned to the spot there was no sign of the cart or the children. She started searching feverishly and was helped by troops who took her to the nearest village. There people remembered seeing the cart with a woman and children, but nobody knew where they had gone. Words cannot describe what she suffered.

After the war the Red Cross helped her to find Xenia Golubeva, who stated that she had left seven-year-old Nikolai with a Mrs. Sidorovich in the Bialystok Province, in some village whose name she could not now remember. One-year-old Valeri had, she thought, been left with a childless family in the same village.

People of Bialystok area, I beg you to find out the village in which the Sidorovich family lives. Ask old inhabitants what happened to those two boys. Please let me know everything you discover. We're looking for Nikolai Perevozkin (born 1933) and Valeri Perevozkin (born 1940). . . .

From Galina Yurieva, Minsk:

. . . You say that a mother is seeking her two sons, Nikolai and Valeri. I have a neighbour and colleague, Nikolai Perevozkin*. He did not hear your broadcast, but I told him about it. This is what he remembers about himself.

He is Nikolai Perevozkin, born in 1935. He recalls that he was fleeing in a cart with his brother, a younger brother, he thinks. His mother was there, and some other women, and his mother left them.

He did not see her again. Afterwards somebody told him that his mother had gone back for her documents and had been caught in the bombing. So Nikolai

*The boy must have fled and mispronounced his name.

considered her dead. That had all taken place somewhere in Poland.

Before long he was parted from his brother, too.

In 1944 he was one of a group of Russian children taken to an orphanage at Grodno, where he was brought up until 1948. Now he lives in Minsk, and he works as an instructor at a building school.

He has a wife and a seven-year-old daughter. . . .

Telegram to Alexandra Perevozkins, Novozybkov:

MAYAK RADIO STATION SEEKING YOUR SONS, TRY WRITING NIKOLAI PEREVOZHKN. ADDRESS . . .

Letters from Poland

From Wictor Rudzicz, Bialystok:

Dear Comrades,

On Saturday October 9, I switched on Radio Moscow. It was just at the time when the programme "Missing Persons" gives details of people lost track of during the war. A mother was seeking her two children, Valeri and Nikolai, who had been left somewhere in the Bialystok Province.

I am a journalist working on a Byelorussian weekly published in Bialystok. I should very much like to help that unfortunate mother. I am therefore asking you to send me as many details as you can of the circumstances in which the mother and children were separated.

From Maria Karpowicz, Bialystok:

I very often listen to Radio Moscow. . . . I heard the Majak programme about the search for the two boys and I decided to help. I have found out that the Sidorowicz family lives in the village of Sobolewo. Sidorowicz himself died two years ago, but his wife and children are still alive. One of the boys left with Sidorowicz lives in Bialystok.

Telegram from Alexandra Perevozkins, Novozybkov:

MFT AGAIN IN NOVOZYBKOV

**AFTER TWENTY-FOUR YEARS
MANY MANY THANKS PEREZOV
KINS MOTHER AND SON**

Another letter from Wictor Rudzicz:

This is what I have managed to discover: in Białystok there lives a 25-year-old boy. In July 1941, he was adopted by a worker's family. They gave the boy their surname and had him christened in a Roman Catholic church. He is now called Zbigniew-Walentyn Lapinsky.

Here are the facts which lead me to think that Zbigniew is Valeri Perezovkin. Soon after I had published the news of the search in the Byelorussian weekly *Niwa* and the Polish *Białystok Gazette*, a man named Władimir Łukaszewicz, from the village of Sobolewo, came to see me.

"I live next to the Sidorowicz family," he told me. "I remember that at the beginning of the war, when the Germans attacked the Soviet Union, a Russian woman came to Sidorowicz. She had two children with her, a tiny girl and a boy of seven or eight. She left the boy with Sidorowicz and went on somewhere else with the girl. The boy's name was Kolya. At the same time we found a baby boy of about 18 months in a clover field.

"It was like this. After the air raid some of the men were talking on the hill. Suddenly one of them noticed something white moving in the clover. When they went to look, it turned out to be the boy. Petrowsky took him, and his wife washed the baby and gave him some milk. When Kolya saw him he said it was his brother.

"The boys lived in our village for a while, and then they were both moved to a children's home near Białystok. But the Germans closed the home down and Catholic nuns took all the children in."

Further information was forthcoming from Xenia Golubeva. Here is an extract from a long letter she wrote:—

"I unharnessed the horse and tethered it. I sat Valeri under a bush and fed him. I asked Kolya to stay with him, but the boy ran after me. We left Valeri there because I decided that somebody would come for the horse and our things and would collect the baby then.

I had my year-old baby with me, and we walked to the village of Sobolewo. At the first house I met a man. That was Sidorowicz. I told him where I was from and what had happened, and also where I had left the child, the horse and the baggage.

"Sidorowicz brought the horse back and said that people in the village had taken Valeri in, having no children of their own. If his mother were not found they would adopt him. I asked Sidorowicz if I could leave Kolya with him, and he agreed. . . ."

Finally, there came news from Iwan Hazonowsky:—

"Bronisław and Władisława Lapinsky are my very good friends. After ten years of marriage they had no children, and they decided to take the boy in. He was no longer in the village, and we went to fetch him from the orphanage run by the nuns in Białystok. The nuns gave us the boy and we took him right away to the church to be christened. They gave him two names: Zbigniew-Walentyn."

Alexandra Perezovkina had said in her letter that Valeri was born on May 15, 1940. In Zbigniew Lapinsky's documents his date of birth was also entered as May 15, 1940.

Extract from a broadcast:

I am happy to be able to tell you that at last the search for Alexandra Perezovkina's two sons is over.

As you will recall, her elder son, Nikołai, was found last year, thanks to Galina Yuriewa. Now the younger son has been discovered, too, with the aid of a Polish journalist, Wictor Rudzicz. To rule out any shadow of doubt, I asked Moscow Television to help us. One of their staff who went on a job to Poland approached his Polish colleagues to take some film of Valeri.

We invited Alexandra Perezovkina and Nikołai to come to Moscow. We went into the cinema at the TV studios. Everyone was excited, for before long a mother either would or would not recognise a son. She alone was calm, wasting no effort on speculation. The lights dimmed and a tall, gangling young man appeared on the screen. He was with his fiancée, choosing a purchase in a gift shop. Suddenly the mother's voice broke the tense

silence. She spoke quietly and tenderly: "Oh there he is, my boy! My own flesh and blood!"

The next day Alexandra and Nikołai came to see me at my home. She is a wonderful woman; wise, modest, dignified. For all that she is over 70, she is still beautiful. Despite her terrible story she has not lost her lively sense of humour, and can rejoice as heartily as any youngster.

With a mischievous smile she tells of how a widower proposed to her 20 years ago. She said him, "I shan't marry again until I've found my children." Now she says, "I'm so happy at this moment that I wouldn't mind even getting married now. But I don't know if my widower's still alive!"

Alexandra writes

In a letter Alexandra Perezovkina writes: "Nikołai and I were waiting to meet Valeri and Wictor Rudzicz. The station was crowded and it was all like a dream. I was walking on air. As the train from Poland drew into the station, the attendants began to point out where my son was. The attendant on the first coach pointed to the second, the second to the third. And the one on the third raised his flag above his head and stayed that way until the train came to a standstill.

"The crowd moved towards the train and we couldn't get near. Valeri got down on to the platform, and I don't know what strange force drew him to me—there were so many people around—but he flung his arms round my neck and burst into tears, saying *Droga Mamusiu!* That's the Polish for 'Dear Mother!'

"I can't tell you how wonderful it was to hear those words. It was a meeting of sorrow and joy for the whole family. . . . We're all so happy that I'd be willing to live for two centuries if I knew I would see my sons!"

ADOPTED CHILDREN

A great variety of problems arise when it comes to tracing people. One of the most vexed questions is that of adopted children.

During the war many women, not only childless ones, took in children, brought them up and looked after them like their own. Even during the Leningrad siege neighbours would take children whose parents had died,

and would share with them what was literally their last crust of bread.

So a new family would come into being in those grim days, a family whose rights are protected by Soviet law. Above all the law is designed to protect the interests of the child. No one has the right to touch that new family, to search for adopted children—not even the child's actual parents.

The law is just, for it preserves the children from possible mental suffering. It is not difficult to imagine the feelings of a child who suddenly learns that he does not really belong to a family, that he is a stranger in its midst. Sometimes a child has not the resources to take a shock of this kind. Some lose interest in schoolwork, some become withdrawn and untrusting and even turn against their adoptive mother and father, considering themselves to have been deceived. Because of all this, many adoptive parents move to a new town when they take a child, in order to preserve the secret of adoption.

The law is just for another reason. It protects the rights of the adoptive parents. In bringing up the child, they become as attached to it as though it were their own son or daughter, and they would feel the loss as deeply as natural parents.

But even the most just of laws cannot provide for all the great diversity of problems that arise. Especially when they arise from the war.

There have been cases where enemy captivity or severe wounds have prevented a parent from making it known that he or she was still alive, and the children have been considered orphans and taken to children's homes. Many years later, the mother or father has somehow managed to discover where the children were brought up. But there the natural parents have been told that their children have been adopted, taken by new parents, and in accordance with the law their whereabouts cannot be revealed. This is cruel.

But isn't it just as cruel to disrupt a family which the child looks upon as his own?

The parents cannot reconcile themselves to the position, and keep searching and searching for their already grown-up children. They ask *Mayak* to help, but we have no right to do so, however much we sympathise with the parents.

Sometimes, however, things are different.

Often when children were taken from a children's home they were of an age when they could remember their own father and mother. When they are adults, although they feel that they "belong" to the family that has adopted them, they still want to know who their natural parents are, and if they are still alive.

An adoptive mother, one might think, could look upon this as a sign of ingratitude, and perhaps feel jealous and hurt. But it is interesting to note that many of the adoptive mothers themselves seek help to trace the actual parents of their adopted sons and daughters. And it is not, as I first feared, that this is a sign that all is not well in the adoptive family. I have piles of letters proving otherwise.

"Nina Kisleva is my adopted daughter. The little girl I took in during the war has grown up. Now she has her own family, and a small son. She is not alone, we look upon her as our own flesh and blood. But we should all be so happy if we could find at least some relative of hers.

M. Zolenskaya."

"As I listened to your broadcast, I began thinking about my adopted daughter. . . . Somewhere the real mother of my Klavdia may still be weeping for her. . . . Please help us to find Klavdia's parents if they are still alive.

A. Trifonova."

Such requests are motivated by true altruism. It is more than sympathy for another's misfortune—there is an astonishing readiness to share the love of adopted daughter or son. These adoptive parents must be profoundly confident of the love of their children if they are not afraid that the real parents will alienate their affections.

Through a writer's eyes

I read the human documents that come to *Moyak* with considerable emotion, and do everything I can to put people in touch with those they are searching for. At the same time, my writer's soul is on the job, thinking: What a subject! What a magnificent subject! It has all the ingredients—profound psycho-

logical interest, heroism, and elements of the detective story. Here are subjects for novels, plays, short stories. . . .

Theme for a short story

A young woman volunteered for the front and went off, leaving her year-old daughter Anyuta with her grandmother in the country. When the mother returned from the front, all that was left of the village was charred ruins. Grandmother and child had vanished without trace.

Anyuta had flaxen, almost white hair, and her mother was convinced that this would make it easier to find her. The mother is no longer a young woman, and she works as a taxi-driver at Askaniya-Nova, a nature reservation in the Ukraine. She has been offered easier work, but she refuses.

"Anyuta will come here one day," she thinks. Quite often she will pull up suddenly, jump out of the taxi and run up to a young woman with fluffy white hair. Each time she comes back disappointed.

Detective story

The following story could be handled as a detective story or even a thriller—there are so many interwoven threads, so many surprises and complex investigations. But if one tells the story of its heroine, of her steadfastness and loyalty to her duty, then it becomes more of a morality play.

As far as Anya, a Moscow student, knew, she was the daughter of the Polovtsevs and she had a cousin Zina. Then it turned out that none of that was correct, after all.

One day, August 28, 1966, changed Anya's whole life. Her mother and Zina's, who had until then kept the family secret, decided to tell their daughters the truth about themselves.

In 1941, two baby sisters were adopted from a children's home in the town of Dedovsk, a long way from Moscow. Their parents were thought to have been killed. The adoptive mothers, both of them Muscovites, but until that day strangers to one another, agreed that rather than separate the sisters for ever, they would tell them they were cousins. And it was only when the girls were grown up that the mothers decided that they should know the truth about themselves.

Zina, who had recently got married, received the news with comparative calm. But Anya, the more impressionable of the two, was deeply affected. She wanted at all costs to go to Dedovsk. She did so, and there wandered about the town. By chance she found the local museum, and there came across a book devoted to the Dedovsk Factory. It occurred to her that she might find a mention of her surname in it—the now knew it to be Slepeshova—for her parents might well have worked at the factory.

She was on the right track: she found her father listed among the factory workers who had been killed at the front. She rushed off to find one of the older inhabitants of the town.

"The Slepeshovs?" an elderly woman recalled. "Yes, they were a good family. The father was killed near Smolensk."

Anya burst into tears.

"The mother's alive, but she's in hospital," the old woman went on.

Anya's face was a study in astonishment. She learned that when her mother had heard of her husband's death she had gone out of her mind and had been in a psychiatric hospital for many years.

Anya was shocked and depressed, but decided that it was her duty to find her sick mother. She traced her to a hospital at Kolonna, near Moscow, and both sisters went to visit her. Their mother did not recognize them—for her, her daughters would always be babies.

"My husband was killed near Smolensk not long ago," she told them. "And I'm left alone with three children."

The girls looked at each other, mystified.

Their mother went on: "Three little children: two girls, Anya and Zina, and my son Victor, the eldest of them." She was quite clear about the dates on which her children were born.

Anya not only felt a responsibility to her mother, she also considered she had to find her brother. Rightly assuming that Victor must have gone to the children's home with her and Zina, she started from that point, and tracked him step by step through his life up to the moment when he left a vocational training school.

Here there was an unexpected complica-

tion. Among that year's batch of school-leavers there were two Victor Slepeshovs, both born in the same year. She started looking for both of them.

In six months she unearthed one of them, but it was the wrong one. Now convinced that the task was beyond her resources, she asked *Moyak* for assistance and after details had been given on one of our programmes we received a letter from Voronezh, from a man who had served with Victor in the Army.

So Anya set off for Voronezh, over 300 miles from Moscow, and talked with her brother's former Army comrade, who gave her the names of others in the unit with whom her brother had been friendly. She wrote to them all and had talks with them. Finally she ascertained that he had gone off to work on a construction site at Sberia, and somebody was able to give her his exact address.

She began to be worried about his reaction to the tragic story of his mother—but perhaps there would be compensation in the knowledge that he had two sisters.

She bought herself a plane ticket.

A mine and a child

During an offensive, Soviet troops took a village from the Nazis. It seemed to be completely without life, for there was almost nothing but piles of scorched rubble. Only one house was left standing.

The soldiers rushed in and were amazed to see a little girl of about three sitting on the floor in a half-empty room, tied to a leg of the table. She was barely conscious, and the men darted forward to untie her and take her in their arms.

"Stop! She's mined!" barked a Sapper just in time. His experienced eye had noticed the wire.

They saved the girl and the soldiers gave her a name. They called her Maria because they liked it, and added the surname Minina, from the Russian word for "mine". Then they sent her off to safety, well behind the lines.

That Sapper has spent many years looking for Maria Minina.

Apart from Anya's brother, none of the people in this last batch of requests has yet been traced. . . .



The backbone of Russia

the backbone of Russia

Symbol of the Urals and the vast natural wealth there.



by Mark DEUTSCH

At the pass of Ural-Tau, near the city of Chelyabinsk, stands a large granite obelisk. On one side is inscribed the word "Europe" and on the other "Asia". The Ural Mountains form a natural boundary between these two parts of the world—but a boundary that links, rather than separates, the European and Asian parts of the Soviet Union. From the Urals comes a flow of metals, machine tools and other industrial equipment; to the region goes the coal of Kazakhstan, the vegetables and fruit of the Volga region. Stretching from the icy Arctic Ocean in the north to the blast-furnace heat of semi-desert in the south, the Ural mountain range has traditionally been known as "the backbone of Russia".

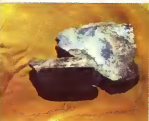
*The River Schugov,
in the northern Urals*



*Right: An ore-working
near Mednogorsk—the
name means "the town
by the copper mountain"*

*Far right:
In the great Uralmash
plant, one of the largest
engineering works in
Europe*

*Below: Blue sodalite and
green hornblende from
the Urals*



The backbone of Russia

There are many legends about the Urals; one of the most famous concerns the Lady of Copper Mountain. She lives in the form of a small lizard with a diamond crown on her head—the queen and custodian of the underground Ural kingdom.

Whenever she meets travellers who truly love the Urals, she changes into a charming woman and guides them around her realm, proudly revealing where the richest ores and semi-precious stones are hidden.

If a guest happens to be a diamond-cutter, his chance meeting with the Lady of Copper Mountain will transform him into a matchless craftsman, but he is also doomed to return to the Urals time and again, in a never-ending search to find among the multitude of lizards the one with a diamond crown. . . .

Now the legend has a new ending. It seems the Lady wants to leave the Urals because of the noise and bustle.

"Over the past 40 years I have initiated many people into the secret wealth of my kingdom," she explains. "Today I am surrounded by mines and miners, and the clanging of hammers and the roar of bulldozers and the whirl of giant machines. Life isn't peaceful any more.

"And that's not all. When I met a delegation of diamond-cutters the other day, one of them offered to remodel my crown, saying that it

was out of fashion. . . ."

The Urals region is as large as France, Spain, Sweden and Finland combined. It has been Russia's heartland for more than two centuries. Wind and weather, heat and frost worked on the Ural Mountains for millions of years, wearing them down and laying bare their incalculable wealth—about half of all the minerals that exist are to be found there.



The traveller is always startled to come across the Ural range, cutting through the boundless, comparatively flat expanses of Russia. These mountains, probably the oldest on earth, bear no resemblance to the snow-capped, heaven-soaring sharp peaks of the Caucasus. No, here one finds quiet fir groves, vast meadows on hillsides, and the subdued colours of central Russia.

The northern part of the Ural range, some 900 miles long, is mostly uninhabited by man, and consequently is a veritable paradise for hunters and geologists. Nevertheless, plans have been drawn up for the building of several cities in the future.

The central Urals, despite its many cities and industrial settlements, has retained most of its primitive landscape. A local "statistician" claims that of 500 Ural families he

knows, 345 spend their days off gathering mushrooms and herries in nearby forests or fishing. Whether one accepts these figures or not, the point has been made: urban life in the Urals is only one short step from the untapped surrounding nature.

The industrial reputation of the Urals rests on mineral resources. The copper ores are rich in sulphur, zinc, rare and precious metals, and the iron ores contain titanium, copper, vanadium, chromium and nickel. A concomitant of copper ore is malachite, a beautiful green rock. Early in the nineteenth century a 300-ton malachite block from the Urals was used to decorate a hall in the Czar's Winter Palace in St. Petersburg.

Platinum has been discovered near Nizhni Tagil; and in the middle of the last century a prospector found the largest gold nugget known at the time—the Big Triangle, weighing 36 kilograms (nearly 80lbs).



In Pavel Bazhov's fairy tale, "The Little Silver Hoof", a magic fawn struck its hoof against the earth and uncovered a whole cache of precious stones. But the Ural riches surpass anything in fairy tales. They are real, and include diamonds, emeralds, garnets, aquamarines, rock crystals and topaz—in all, 55 varieties.

The key wealth of the Urals, however, is its iron ores, recently estimated at 10,000 million tons. Most valued is magnetite, with a very high iron content.

On the initiative of Peter the

Great, the Urals in the eighteenth century became the smithy of Russia, casting cannons and forging patterned steel blades capable of severing a hair at the lightest touch.

Since the end of the nineteenth century the Ural region has been turning out machine-tools and machinery. In recent years it has manufactured complex precision instruments and machines. Over a quarter of the Ural workers are employed in engineering industries.

During the Second World War some 460 industrial plants were moved to the Urals from areas in the west threatened or overrun by Hitler's invading troops. The Urals turned out most of the arms that eventually defeated the Nazis.

After victory, the Ural economy went over to peace-time production, having opened a new chapter in the history of Russian steel—steel not for swords, but for chisels, cutters and drills.

Industrial centres grow rapidly, become big, sprawling, busy cities: 6.4 million of the total Ural population of 16.4 million live in 17 large cities. The region's 364 towns account for the other 65 per cent. One unusual small town is Nevyansk, a placid, idyllic spot with an old leaning tower like Pisa's.

Ural industrial centres have many similarities, most pivoting around a metal or engineering plant. But some have specific, distinctive features.

Solikamsk, a timber-rich area, produces enough paper to print



one-third of all Soviet newspapers. Its prime importance, however, is due to a mile-thick layer of pure common salt in its surrounding area.

The "metropolis" and the largest city of the Urals is Sverdlovsk (formerly Ekaterinburg), long identified with the cutting of precious stones. Recently it turned out its 25,000th diamond. The ruby stars which crown the Moscow Kremlin towers come from there, too. But now the pride of Sverdlovsk is its famous Uralmash, the Ural Engineering Plant, one of the largest in Europe. It manufactures drilling rigs, equipment for blast-furnaces, excavators, rolling mills, etc.

There are also some 200 other factories in this city of a million people. It is the seat of the Ural branch of the USSR Academy of Sciences, and boasts 10 colleges, a university, five theatres and a conservatoire.

Clustered around Sverdlovsk are other industrial towns which mine iron and copper ores, gold, asbestos and precious stones; smelt steel, copper, aluminium and nickel; and manufacture rolled pipes and machinery.

Close to Sverdlovsk lies Nizhni Tagil (population 370,000). Once the iron from here, with its trade mark of Stary Sobol (Old Sable), was known all over Europe. To this day its sheet copper gleams on the needle-shaped steeple of the Admiralty Building in Leningrad.

For more than two centuries the iron ore of the rich deposit at Mt. Vysokaya (High Mountain) was

smelted in the blast-furnaces of Nizhni Tagil. Today the mountain no longer exists: the site where it once rose is now a deep pit furrowed by mining machines.

An iron ore deposit at Kachkanar is now being exploited, some 60 miles to the north of Nizhni Tagil. A large ore-dressing plant has been built there, the crushers of which easily smash blocks the size of a car into rubble.



Magnitogorsk is not yet 40 years old. But during its brief history Mt. Magnitnaya (Magnetic), which gave the city its name, has dwindled to the size of an unremarkable hill. Its metal plant, the largest in the Soviet Union, was opened in 1931. Since then it has turned out more steel than the entire Ural area did in the preceding three centuries.

Around 1970 the mining of Magnitnaya ore will be stopped. Does that mean the decline of the city, which has a population of 350,000? Not at all. The plant is mostly processing ore recently discovered in the nearby steppes of Kazakhstan, and deposits there are so rich that even the grandchildren of the present Magnitogorsk workers will be able to find employment in their own city, which is expanding all the time.

Chelyabinsk, with 805,000 residents, is the second largest Ural town after Sverdlovsk in population. It has a very advantageous situation, standing on the junction of five railways which link the European and Asian parts of the USSR. But it is

more than a major transit point: it is an industrial town with dozens of big engineering works.

The most important is the Chelyabinsk Tractor Works, which aptly enough came into being on the site of a plough-making factory owned in the old days by the Belgian firm, Stoll and Co. Today the works manufactures the most powerful farm machinery in the country, and its production is greater than that of any other plant in the Urals.

Hunters in many lands know rifles trade-marked Izh—the initial letters of Izhevsk, another Ural city. These sporting guns are popular in the Soviet Union and are exported to 50 foreign countries. The Izh trademark also attracts motor-cycle fans—the millionth motor-cycle recently came off the assembly line of a plant in the city.



The Ural region has always attracted people from other republics of the USSR; as a result, the population is made up of some 30 nationalities. Russians account for 80 per cent overall, and the influx of skilled Russian workers brings the figure to 85 per cent in several industrial centres.

Of the nation's 785 colleges and universities, 50 are in the Urals. In pre-Soviet times there was no compulsory education and nearly 99 per cent of the Ural population was illiterate. Though uneducated, they were not lacking in talent—the skill of Ural workmen was appreciated all over Russia.

In the old cities, especially in the northern Urals, some streets are entirely made up of rows of wooden houses decorated with intricate carvings. Sometimes there is simply a carved pattern, sometimes it is an illustration to an old legend.

For centuries Ural craftsmen have been famed for their malachite, jasper and rock crystal carvings. It would take a master craftsman from six months to a year to complete a little casket made of semi-precious stones—considered a luxury even among the wealthiest people.

To this day the art of stone-carving is pursued in the Urals. Special schools have been organised where the craft is taught, and young people who have talent are eager to enrol in classes.

Between Chelyabinsk and Sverdlovsk nestles the little town of Kasli. It may be little, but its wrought iron has long been prized. Many of the railings and fencing that constitute one of Leningrad's most notable features were cast in Kasli.

In the past few decades, theatre has become a vital necessity to millions of people in the Urals. When the Sverdlovsk Opera performs in Moscow or Leningrad, tickets are not easy to obtain because the company has a high reputation.

On the stages of the Urals, Shakespeare, Chekhov, Brecht and Dürrenmatt are presented. Choral groups are popular, and the famous Urals Russian Choir does not only present its songs and dances to local audiences—it has travelled abroad several times and enjoyed great success.

Bazaar in Central ASIA





Take the golden road to Samarkand, where the age-old kaleidoscope of the Orient still colours the bustling life of a 20th-century market.

A bearded Uzbek returns from the Sunday bazaar. Does that solid chest contain the takings? Or has he bought it to hold his daughter's trousseau?

Right: Both sellers and buyers come to market by donkey in these parts, and here are their steeds, tethered amidst a townscape of flat-roofed houses built in the centuries-old tradition, but bristling with television aerials as a sign of the times.

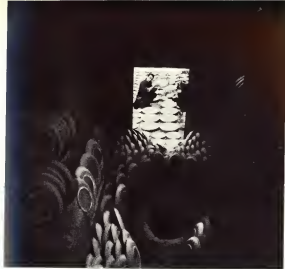




Pickled cucumbers and tomatoes may not be exactly Oriental fare, but there is a broadminded approach at the Samarkand bazaar. Peaches are more to local taste—what could be pleasanter than sitting out in the shady courtyard of an evening, and biting into the luscious velvety fruit?



The Land of Promise, flowing with milk and honey? Not quite, for Uzbekistan goes in for sheep rather than dairy cattle. But there is an abundance of bees, and they produce the most delectable honey. In fact Uzbekistan's honey is reckoned to be almost the best in the Soviet Union.



Above: These Uzbek potters are making colourful dishes to hold pillaff and the rich fruits of Soviet Central Asia.

Left: Usto Khaidarov, from Kokend, displays his wares—all manner of things intricately carved in the national folk tradition. It is a matter of honour for an Uzbek craftsman not to repeat a design when he makes goods for the Samerkand bazaar.

Right: Two of Khaidarov's fancifully carved platters, the designs perhaps suggested by the exuberant local vegetation.





No, he isn't smoking a king-size cigarette. He's trying out a shepherd's pipe, which he has for sale at the bazaar. And there are plenty of shepherds in Uzbekistan—for one thing, this is shashlik country, and mutton is the only thing for a good tasty shashlik. You can get that in the bazaar, too, straight off the glowing charcoal.



Heavenly choir of clay dogs letting it rip. But they don't bark; they whistle if blown with the master's touch. Dogs fulfil a useful function in Central Asia, standing guard over the shashlik while it is still on the hoof. These are modelled in white clay, but Uzbek folk potters are also renowned for their fanciful animals in red, unglazed, decorated clay.

"Salaam aleikum!" The ancient Oriental salutation, "Peace be upon you", passes from seller to buyer, from buyer to seller, part of the general market hubbub. "Try my wares, esteemed and honoured guest," the bazaar entreats. "Take them by the glassful, by the basinful, by the bucketful! Just as much as you need!" And the bazaar, with its mysterious and enticing aroma, its kaleidoscope of colour, is so persuasive that the customer ends up with far more than he needs.



All by young artists



"The Concert".
Tapestry by E. Vigner.



In the very centre of Moscow, right opposite the Kremlin wall, stands a monument to the luxury and high-living of the Russian czars. It is a magnificent building erected as a manège, where the czar's horses were trained. Elegant, glossy, well-fed steeds cavorted around and went through their paces until they had



"The Parting", by E. Djolos-Soloviev, which harks back to the time of the Civil War.

A philosophical allegory. "The Search for Immortality", by I. Nekrasov.

acquired military precision. For many years now it has been used for rather different purposes, and its official name is the "Central Exhibition Hall". Muscovites, however, go on obstinately referring to it as the Manège through force of habit.

Recently an exhibition of works by young artists was held there in honour of the fiftieth anniversary of the Young Communist League (the Komsomol). Work by artists from many nationalities of the Soviet Union was on display, and there was a great variety of trends and subjects.

Youth, of course, was the favourite theme.



"People and Metal", by I. Pyldros. Here men stand in casual attitudes, not intimidated by the white hot dragon of molten metal, for the stronger is the servant of the weaker, and will be moulded to their will.

Opportunities for youngsters to become interested in art, either as a career or simply for enjoyment, are plentiful in the Soviet Union. Apart from the usual art lessons at school, there are art clubs at most centres of Young Pioneer activity (the organisation for children of 9 to 14), where tuition is given by qualified art teachers.

A youngster who shows real promise and interest may go to a secondary school of art at about 13—entry is by competitive examination. Later on, whether he has been to



"Minsk", by V. Pasyukovich, a young Byelorussian painter who has grown up with the new Minsk. Twenty-four years ago, only three smouldering houses and a desert of ruins remained of the city.

such a school or not, he may go to a school of art at college level.

At the moment there are 108,000 children at secondary art schools all over the Soviet Union, and more than 36,000 at schools of art at college level (which also have competitive entry), such as the Surikov School of Art in Moscow and the Repin School in Leningrad—both of these are named after famous Russian painters.

Once an artist has been through one of the training



In "The Sportsmen", G. Neledva has placed his characters in an empty compartment of an underground train, as if to emphasise the separateness, the withdrawal into self so common in sportsmen about to walk out on to the field of battle. They are a closed fraternity, aloof.



Another painting on a sporting theme, "The Basketballers", is by F. Gyudyadyan, an Armenian. Those who know the paintings of his fellow countrymen Saryan and Deineka say that he gets his colours from the former and his line from the latter artist.



"Midday", by I. Starzhenskaya.

systems, there is considerable scope for work.

He may specialise in monumental work, for which there are plenty of opportunities in a country that is constantly building. He may, for instance, do frescoes for new Underground stations, as in the past the old masters decorated churches. He may use stained glass or mosaic, here and on all kinds of public buildings, inside and outside.

He may become a restorer—a tremendous amount is being done in this sphere. And for this he will need to be interested in history, and to subdue his own personality to that of the long-dead painter of the original work.

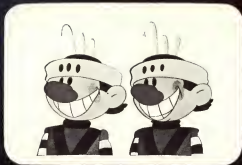


"Summertime", by I. Sandryiev.

Then there is book illustration (the Soviet Union has the highest book output in the world), metal chasing, theatre design, sculpting, and carving in all kinds of materials, to mention just a few areas of activity.

He may, of course, paint pictures—and sell them through one of the professional organisations to which most artists belong.

Exhibitions of paintings are frequent, not only in the public galleries and museums but in all kinds of clubs, at factories, scientific institutes, in theatre and cinema foyers, and so on.



THE JERSEY THAT LOST ITS STRIPES

Everyone in the Soviet Union loves a cartoon film. Almost everyone is keen on sport—if only as a televiewer. So Boris Dezhkin can scarcely go wrong. Not only is he a leading director of cartoon films: he has finally gravitated to sport as the exclusive subject of his cartoons. His "Score a Goal!" about an ice-hockey match, won a prize at Cortina d'Ampezzo.

When the Komsomolskaya Pravda reporter arrived to interview Boris Dezhkin he could hardly get a word in, for the director was still full of the film he had just finished, "The Return Match". Between the chain-smoking, the words just poured out—there was never enough time, such-and-such drawings hadn't quite come off, and so on and so on. It was half an hour before the reporter could get his first question in.



Talk with a Soviet Disney

by Vladimir KUKUSHKIN

from the newspaper KOMSOMOLSKAYA PRAVDA

Why are you so keen on sport as a subject?

DEZHKIN: Because every sporting contest is so packed with drama.

When I was much younger I used to go in for acrobatics, and I was interested in sport in general. I was also very fond of going to the cinema, and particularly loved Chaplin's humour. Also I liked to draw. So in the thirties I went to the Soyuzmult film studios, which produced animated cartoons.

I've been through all the stages of the process, from animator to director. It was only a few years ago that I returned to my first love, sport, and began to concentrate on it in my films.

I think I was right not to plunge into the old familiar medium at the outset. My films would not have had much meat in them—straight sport would not have provided enough interest.

Take "Score a Goal!" Before any Soviet ice-hockey match, and in the interval, music is played. So I put a Beatle-style pop group in the film. (From a thick batch of drawings he pulled out a few celluloid sheets with cartoons of a guitarist.) You don't have a real hockey game without breaks, and anyway, this group is entertaining in itself, helps the viewer to relax.

After this film was released we got a great many letters asking for a follow-up. So we had to produce another cartoon which to some extent covered the same ground as the first.

Do the conventions of the cartoon film cramp your style at all?

DEZHKIN: Of course, one is conscious of the conventions, but in a way these broaden the possibilities rather than restrict them. Look at this sequence, for instance. (He put several drawings out side by side on the table.)

The moment the match starts, one of the players dashes forward so fast that the stripes from his jersey get left behind, so he has to run back for them. It all happens with such speed that his opponent only has time to turn his head and blink a couple of times. As for the viewer, he has the illusion of a fantastic burst of speed from a standing start.

It seems to me that some of your players here resemble certain celebrated sportsmen. Is that intentional?

DEZHKIN: Quite right. The day we start work on a new cartoon we go to the stadium to look for material and ideas.

Once we saw a reserve slide up to the buffet and snatch a crafty beer—dead against regulations. He got no enjoyment from it, but



gulped it down with a furtive air. We used that episode in our cartoon.

Are you planning more cartoons on sport?

DEZHKIN: Yes, definitely. The subject is very promising. Besides, I love sport. My secret dream is to have the time to go to all the football, hockey and basketball matches, and to all the athletics contests.

THE
END



his eyes can read your thoughts

TOFIK THE TELEPATH

by Oleg FRANTSEN

from *MOSKOVSKY KOMSOMOLETS*, a Moscow youth daily

No one takes any particular notice of my companion as we walk down the street. He appears to be just another young, handsome southerner. But I foresee the day when his picture will appear on theatre posters and people will scramble to get tickets for his performances.

My friend is telepathic. The very word evokes scepticism. There is a widely held opinion that mind-reading comes within the category of flying saucers, abominable snowmen, intellectual dolphins and the like. Despite the convincing performances in the Soviet Union of Wolf Messing, hypnotist and telepath, there is much debate on whether one mind can act on another at a distance without sensory communication.

Nevertheless I am going to write this story, confining myself to facts obtained at first hand and things which I saw with my own eyes.

Tofik Dadashov, hypnotist and mind-reader, who discovered telepathic powers at 14.



Tofik Hassan-Aga-Ogly Dadashov was born in Baku, Azerbaijan, in 1947. As a child he was sensitive, imaginative and extremely absent-minded. He would often begin to do something, leave it unfinished, then start on something else.

Tofik was 14 or 15 when he first experimented with his telepathic powers. During a boring literature class in school he idly wondered if he could make the teacher stutter by mental concentration. After he had been concentrating for a few minutes the teacher suddenly became visibly nervous and began to stutter and read like a first-form pupil.

This demonstration of his mental power excited Tofik, and emboldened him to try mental suggestion on other teachers. Soon he had them walking aimlessly up and down the aisles, approaching his desk and

then turning back.

In contrast to this slightly disruptive role, he also helped to subdue rowdiness among his classmates, calming them down by silent suggestion.

For some time Tofik concealed his special abilities from his family. To begin with, he was not quite sure whether he really possessed the extraordinary faculty of reading other people's minds and exercising his will on them. And when he tried to read another person's thoughts he was not always successful. Nevertheless, he kept on experimenting and made progress.

When he was 18, living with relatives in Kiev and studying in a technical school, Tofik saw one of Wolf Messing's performances on stage, and realised that he possessed the same miraculous abilities.

Now he took his relatives into his confidence and asked for their co-operation. They readily agreed and began with simple tasks, such as hiding a coin and having Tofik find it after reading their minds. He also used them as subjects in his first attempts at hypnotism.

Gradually he acquired confidence. A year later he set off for Moscow to demonstrate his talents before experts, with the aim of becoming a performer like Messing. He had little difficulty in convincing many authorities that he could hypnotize people. But it was harder to prove that he could read other people's thoughts, and was not just a highly skilled charlatan.

He was given intricate tests. One was to enter a large room containing many different articles and pick out the one his examiners were thinking of. Another was to select the right book in a library, open it at the right page and find the right word or sentence. Tofik passed these tests brilliantly, without making an error.

During the tests it was found that Tofik possessed the extraordinary ability, credited to yogis, of controlling the hidden mechanisms of the body, including that of inducing a state of catalepsy—suspension of sensation and consciousness accompanied by rigidity of the body. While in this condition he does not feel pin-pricks, his pulse and breathing become undetectable, but the brain's alert centre is always ready to bring the body "back to life."

Experts of the Moscow Concert Board put Tofik through four stiff examinations before granting him permission to perform on stage.

During the last session, Tofik passed a very difficult test. Simultaneously he had to guess an action the committee wanted him to carry out and also to find an unknown hidden object. One of the members held Tofik's hand while another, standing some distance behind him, thought about the hidden object. Tofik went up to a table, picked up a pencil and a sheet of paper. Slowly, he wrote the word "Greetings". Correct! Then he went to the piano and walked round it. He began to open the lid, then pulled back his hand, went up to the man thinking of the hidden object.

"Concentrate, please," he said.

Then he confidently returned to the piano, lifted the lid and, smiling, took out a packet of cigarettes.

The examiners applauded.

The decision of the committee was unanimous: Tofik had full permission to appear on the stage.

Soon the public will be able to attend his premiere performance, but whether it will be in Moscow or some other city is not yet decided.

There is no doubt that the last word in the prolonged argument on the existence of mysterious psychological phenomena lies with scientists whose judgments are based on principles of objective truth, and who thoroughly weigh all pros and cons. But it is hard to be a sceptic when you see Wolf Messing or Tofik Dadashev on the job.

TORCH DRILLING IN PERMAFROST

A new-type drilling machine, combining a petrol pressure torch and diamond-tipped bit, has been designed to bore the permafrost (permanently frozen soil) of the Far North.

Kharkov (Ukraine) researchers and designers developed this drill, which makes the work six to eight times easier and two to three times cheaper.

One of the many problems confronted by construction workers in the northern and north-eastern regions of the USSR is that presented by the melting of the upper crust of permafrost in summer, and its expansion during re-freezing. This can damage a building's foundation, just as water frozen in a bottle can break the glass.

The only solution found so far is a foundation of piles, which creates an air cushion between the floor and the ground. That's where the new torch-diamond drill comes in, to drill the holes for the piles.

From the newspaper KOMSOMOLSKAYA PRAVDA



STUDYING THE EARTHQUAKE

Uzbek seismologists are planning to drill a three-mile-deep borehole to pass through the epicentre of last year's Tashkent earthquake and enable them to study the rock in the epicentre. So far it has been established that seismic waves pass through the epicentre with a lesser velocity than through the surrounding rock.

From the weekly NEDELYA



THE BIGGEST YET

A diamond weighing 162 carats was found in Yakutia, in north-western Siberia, last year. This big stone is the largest yet found in the diamond mines of Yakutia, weighing 60 carats more than "Maria", found in 1966 and described in our article "Russian Diamonds" (Sputnik, May 1968).

SHOOTING AT CLOUDS

by Mikhail VESTITSKY

condensed from the annual ZEMLYA I LYUDI (Earth and Men)

Life in the town of Voronezh, in the heart of the European part of Russia, was brought to a standstill when it was struck by a violent and unseasonable storm on August 14, 1961. In a few minutes thunder clouds darkened the perfectly clear sky. Rain fell in torrents, then quickly changed to hail, and the thunder rolled. The city was bombarded with hailstones the size of cannon balls, some weighing as much as three-quarters of a pound. Falling with immense force, they damaged buildings and pavements, smashed roofs and windows and tore down electric cables and telephone wires.

That storm, which lasted only 10 minutes, destroyed communications and paralysed the city. Shops, factories and transport were finished for the day, and it took 24 hours to restore water and electricity.

On that occasion the storm was localised, but on May 27, 1843, a hailstorm swept over the whole area bounded by the Baltic and the Black Seas and the Rivers Dniester and Volga. Time and again calamities like these have destroyed young crops of grain, grapes and cotton, and resulted in enormous losses. In the Alazani Valley in Georgia, a Soviet republic renowned for its grapes, damage has amounted to 20 million roubles worth in some years.



In the nineteenth century, men attempted to destroy hail clouds. Special mortars, charged with powder, shot huge smoke rings into them. It was hoped that this artificial whirlwind would disturb the cloud formation process.

Alas for their expectations. The forces in operation during cloud formation were much too great for them. Today it is known that an enormous amount of atmospheric energy is expended in a short summer shower; it is greater even than the energy released in the Hiroshima atom bomb.

Man's attack on the elemental forces was a failure because it was a frontal attack.

Aviation has helped in the study of the interior of clouds, giant miles-high castles-in-the-air filled with shrapnel-like ice. They have proved difficult to destroy or render harmless. Scientists recognised that the essence of the problem was to seek out the subtle physio-chemical mechanism of cloud formation and use that process to disperse clouds. Just as a spark can start a fire or a rolling stone set off a landslide, a negligible "push" may tip the balance in a cloud and cause it to disperse in rain instead of hail.

In the nineteen-forties, the American scientist Irving Langmuir suggested "fumigating" the clouds with silver iodide, a substance well-known to photographers. Silver iodide crystals have a structure closely resembling that of the ice crystals which gradually develop into big hailstones, and Langmuir's idea was

that specks of silver iodide would form extra crystallisation centres which would vie with those of the clouds themselves.

Then, depending on weather conditions and the properties of the preparation, the dynamic equilibrium of cloud formation processes might undergo a desirable change and, instead of large hailstones forming, they might be replaced by many more smaller ones. These would present no threat because in temperate zones raindrops are the result of small hailstones falling from the cold cloud atmosphere to the warmer layers where they melt into rain.

Experiments based on Langmuir's promising and attractive idea gave conflicting results initially, and it took years of research in many countries before a satisfactory application was established.

Guns trained on clouds

"Azimuth 42-20, angle 7-20 . . . Fire!"

The report of an anti-aircraft gun rocks the air. The shell bursts into the cloud to disseminate a substance manufactured to a special Soviet formula. The operator watches the radar screen. Unseen rays probe the sky, studying the size and condition of the hail danger zone. So far the danger has not been removed.

"Fire!"
Through the thick grey blanket which has shrouded the sky over the fields of a mountainous region in



Azerbaijan, the first patches of light shine. The cloud is not harmless yet, though it is beginning to falter. But it has drifted out of range of the gun and is still hanging over the fields of crops, threatening them with a shower of cold shrapnel.

"Fire!"

That is another gun a couple of miles from the first. Two more are located closer to the district centre. All are placed along the expected

continued on Page 144

A helicopter sets off to check on the state of the clouds.

Below, scientists are seen preparing an onslaught on the clouds.



Radar is among the modern means used to obtain additional information about the weather.

Below left: listening to reports from the meteorologists.



These rockets will shortly be fired into the clouds to break up hailstones.

Below: rockets for peace. Clouds are better targets than tanks, planes or people.



route of the clouds, which has been calculated on the basis of data provided by the Weather Centre in Baku, capital of Azerbaijan, and from Moscow, supplemented by information obtained locally by radar and probe balloons.

The cannonade continues until the ominous clouds are reduced to a harmless yellow patch in the sky.

These peaceful barrages protect 175,000 acres of collective farm lands in Azerbaijan from disaster. Similar anti-hail units have been set up in other parts of the Soviet Union. In some places obsolete army guns are used, in others...

Missiles do the job

In 1961, the Ministry of Agriculture of the Georgian Republic set up an anti-hail service, and the scientists and engineers involved chose rockets as their "weapons", believing them to be the most promising means of delivering the reagents.

Missiles had already been used by Italian thunderstorm-fighters, but the Italian missiles only rose to between half-a-mile and a mile, too low for aimed fire. They exploded in mid-air into big fragments—as great a threat to the population as the hailstones. It took years of work to develop a simpler, cheaper and more reliable design.

The Soviet missile has a "ceiling" of over two-and-a-half miles, and its accuracy is ensured by a simple trigger mechanism which makes it

possible to aim in any direction. The silver iodide "warhead" weighs less than three ounces, and with the help of special pyrotechnical compounds it is pulverised as it flies.

Solid carbon dioxide, the popular "dry ice", can replace the silver iodide. The missile is absolutely safe, dissolving into dust on explosion.

By 1962, 30 air defence stations ringed the Alazani Valley to protect 200,000 acres of Georgia's rich vineyards. They kept a 24-hour watch, firing when necessary, and no hail fell on the valley or the surrounding district. But perhaps it would not have hailed anyhow?

Statistics prove that hailstorms are far rarer there now than in the past and also far rarer than in comparable unprotected territory.

'Preventive war'

In 1963, missile-protected land in the valley reached a figure of 300,000 acres. The clouds were subjected to intensive fire 233 times and there was not one hailstorm. And the cost of that "preventive war" was only 0.1 per cent of the income yielded by the protected lands.

Now the hail service, equipped with missile launchers, anti-aircraft guns, radar and weather stations protects 3.75 million acres of fields in the Caucasus, Moldavia and Central Asia. Forty million roubles were saved in 1966 alone by keeping the hailstorms off the vineyards, cotton fields and other crop land.

"It is a sin to rise above one's station, for division into social estates has been ordained by God," wrote Thomas Aquinas. Under feudalism, man's origin determined his life from the cradle to the grave. A nobleman was a nobleman, an artisan an artisan. A sociologist would say that social mobility was practically non-existent. Capitalism swept away the old social barriers, enabling man to change his status. Society became *mobile*. This characteristic is reflected in the popular saying "Anyone can become a millionaire." In keeping with the proverb, "God helps those who help themselves", man has to rely wholly on himself in the "rat race".

MAN IN A CHANGING SOCIETY

Social origin and status in the USSR

by Nikolai AITOV, M.A. (Philosophy)

from the magazine *NAUKA I ZHIZN (Science and Life)*

If on one side of the coin the words, "Equal Opportunity for All" are inscribed, the other bears the legend, "You Have Only Yourself to Blame for Failure!"

What about social mobility under Socialism?

A sociological study was recently carried out in Ufa and Orenburg, just west of the Urals, to establish how man's origin affects his social status. We sought to discover what changes had occurred to people's lives between 1950 and 1965; 1950 was taken as a point of departure because the post-war rehabilitation period ended in that year.

We polled 3,200 factory workers, office employees and professional people over 31 years of age, i.e. those who were at least 16 in 1950, and consequently could have started working then. In 1965 these people, from 31 to 60 years of age, represented the older generation of the urban population.

Our first question related to social origin. We found that children of workers accounted for 36.1 per cent of the total; peasants 48.2 per cent;

office employees 12.1 per cent; others 3.6 per cent.

Thus, nearly half the older generation of the two cities was born in rural communities. This is understandable.

Higher productivity in agriculture reduces the demand for farm workers. At the same time, booming urban industries require new additions to the labour force.

Migration is not always caused by increased labour productivity in agriculture, however. Very often young and educated villagers leave for town because there are greater cultural opportunities and living standards are higher, even though they are rising at a faster rate in the country than in town.

Some results of the survey are tabulated below*.

These figures attest to considerable social mobility. For example, nearly 70 per cent of the present-day salaried employees and professionals are former workers and peasants. And this is logical, because free education, allowances for students in colleges and technical schools, and absence of

*Social origin of members of various social groups, per cent (1965)

Social origin	Factory workers	Salaried employees, professionals	Service trades workers
Workers	38.0	33.6	35.5
Peasants	54.7	36.0	41.1
Employees	6.9	29.5	22.8
Others	0.4	0.9	0.6

racial restrictions enable any person, whatever his origin, to obtain a higher or a secondary special education.

The investigation also showed that, generally speaking, whatever road man embarks on at the beginning of his working life, determines his character. In other words, if he starts out as a worker, he usually remains one. Social shifts within a generation do not occur so frequently as between generations.

This is not true, however, of those who began their working lives in the countryside and later moved to town to become factory or service trades workers or office employees.

Most of those (91.6 per cent) who were workers in 1950 changed their trades, places of work, residences, but remained in the same social group. A small percentage joined the community of salaried employees and professionals because they managed to get a higher education in their spare time.

True, we must allow for the relatively low educational level of the workers in 1950. They began to study immediately before the war and then, during the war and the first post-war years, could not continue their education. The workers' educational level has now risen noticeably; probably the coming generation will be far more mobile and the influence of the first occupation on the worker's life will wane.

More significant changes occurred in the group of salaried employees and professionals. In 1965 this group included close to 70 per cent of its original number. In the years since

1950, 11.7 per cent had become workers; 18.5 per cent had found employment in service trades.

The chief reason behind these changes is that people with insufficient theoretical training had to be employed immediately after the war because of shortages of skilled personnel. Later this situation was rectified with more specialists.

It is interesting to see which trades and professions are stable and which are less so. Teachers, physicians, engineers and people in the arts represent the more stable professions, because they require special training. Naturally, qualified specialists do not lightly relinquish their vocations.

Administrative, clerical and minor technical personnel were found to be the more unstable categories, a mere 35 per cent of them remaining in the same kind of jobs as in 1950.

It is safe to conclude that the higher the educational level, the more stable the group of salaried employees and professionals (we deliberately ignore such an important aspect as the prestige of a profession). The situation is different with workers: the higher the educational level, the less stable the group. A better educated worker stands more chance of joining the professionals and salaried employees. Thus we see that education is an important factor governing social mobility.

Education in Socialist society has ceased to be the privilege of an élite.

Incidentally, in 1914 approximately 90 per cent of the students of Kazan University (one of the oldest in the country) were children of landlords,

capitalists, clergy and well-to-do peasants.

Today children of peasants and workers make up 58 per cent of the student body in this country.

* * *

On interviewing 3,200 people we found their average educational level to have risen from 7.04 years of schooling to 8.02 years within the 15 years. The general increase in the educational level in the country is considerably higher over the same period because we considered changes in the educational status of adults only, who for the most part were already working in 1950, not studying.

Consequently, those who raised their educational qualifications during the 15-year period did so in their spare time. It is not easy to combine work and study; few adults have enough energy for this. Obviously, the educational level rises faster from generation to generation than within one generation over the same stretch of years. Thus workers over 31 had an average of 6.05 years of schooling in 1965, while those under 30 had 8.28 years.

We found that children exceed their parents' educational level by an average of 5.7 years if the latter have a schooling ranging between one and four years; the difference shrinks to a mere 0.34 years if the parents have a secondary education. Parents with a higher education are even slightly better educated than their children.

These figures indicate that the

general educational level of the population is rising and evening out. The fact that the parents are highly educated does not automatically guarantee their children an equally good education.

Equal opportunities at school, and absolute accessibility to higher education, enable children of less educated parents to vie with sons and daughters of intelligentsia. The outcome of such "rivalry" depends in the main on the participants' personal abilities.

However, complete social equality has not yet been achieved even under Socialism; it will come with a further advancement of society. A certain dependence of a child's education on that of his parents is a manifestation of this social inequality. Children whose parents have a higher education normally study better than their schoolmates because they can profit by their parents' advice and help.

But this gap will narrow from generation to generation: 10-year secondary schooling will be made universal and compulsory in 1970. The educational level of young workers (under 20 years old) is quite high already. Such workers will be able to help their children in their studies in much the same way as intellectuals do.

In other words, the effect of the social origin and the parents' education on the children's schooling and lives will decline.

It is safe to conclude that while man's social origin in this country still affects his life, the influence is being reduced to a minimum.

QUIPS AND QUIBBLES

"That man really is a stubborn creature," the donkey mused. "He sees I won't budge, but he still keeps trying."

* * *

"Hurrah! Going into orbit!" the cork shouted as it shot from the neck of the champagne bottle It was positive that if there had been no wall obstructing its path it would have been in outer space.

* * *

"Well, supposing the nightingale does sing beautifully," the frog argued. "But it certainly hasn't learned to croak yet."

* * *

A mouse's idea of a bright future is a catless granary.

* * *

All its life the cord poured its entire energy into the lamp while she, ungrateful thing, cast her light upon all.

* * *

INJUSTICE

"Shame on you! Your teacher *again* complained about your behaviour today."

"But why? I didn't go to school today!"

* * *

RELATIVELY SPEAKING

"Are you a relative of this lady?"

"Yes, but a very distant one. There are 12 in the family. I was the first-born and she came last."

From KROKODIL



3 SAILS ON THE SANDS

by VASSILI PESKOV

From KOMSOMOLSKAYA PRAVDA, youth daily



The sand-sailors, from left to right: E. Nazarov, G. Galullin, V. Tolanov.

Man is so made that sooner or later he feels it necessary to overcome his fears and make his first venture through a darkroom, his first attempt to swim a river, spend a night alone in a forest, climb a mountain, cross an ocean, or rocket off into outer space. There is no end to the chain of tests to which man exposes himself of his own free will.

Towards evening on an early June day, some shepherds in the Kam Kum Desert, near the Aral Sea, saw a strange sight. Along the sandy horizon three sails were gliding. The desert, with its broiling shimmering air can produce some odd optical effects, so the shepherds awakened Asan Bakmyrzayev, a wise old man who was dozing in the tent.

"Look over there—is it a mirage?" they asked.

The old man gazed at the horizon, taking his time, and wiping his eyes with a piece of rag.

"No, it's no mirage," he pronounced.

In the desert, news spreads like wildfire. By next day, everyone for miles around had heard that three lunatics from Moscow were crossing the desert in sail-driven carts.

The kitten was just part of the "menagerie" that gathered in the sand-sailors' camp.



Grim masters of the desert:



I first heard of the combination of wheels and sails last summer.

"You're mad," I said, when I discovered what they were up to. "You can't fool around with the desert."

"Why not?" Edward Nazarov challenged. "It may as well be the desert this time."

I did not protest—I knew Edward too well.

He was a submarine navigator, and a very capable engineer as well. His sense of adventure had taken him all over the north with a ruck-sack on his back, and singlehanded he had crossed the Aral Sea in a small boat with paddle and sail.

I had first met him in Kamchatka, where he had come, as he had said, "to conquer a couple of volcanoes". We did, in fact, "conquer" one volcano together, and in the process were cooped up for eight days in a snowbound tent.

But one volcano just would not do for Edward, and on his next leave he took a plane to Kamchatka again.

He wired me: "I have looked down

upon earth from the top of Kluchevsky volcano." He deserved his congratulations—the feat had been equalled by only about forty other people.



Now in the desert were gathered four men. I was introduced to Vladimir Talanov, an engineer and a keen yachtsman who had shown himself to be a master in this field of sport. Then there was Gennadi Gallullin, instructor in tourism, and Lieutenant-Colonel Igor Sysoyev, just as much of a daredevil as the others, who had made good use of both cine-camera and guitar round the world.

I commented, "If you want to go yachting, the first thing you need is yachts."

"We'll make them," they replied.

"You're really as mad as hatters," I said when I first saw those strange carts in the making. They looked like a cross between a grasshopper and

the hairy tarantule and, below, the sand echis.



*Ships that pass
in the desert,
old style and new.*



one of those early aeroplanes people called "crates".

I begged them to let me be in at the start of this curious voyage. The dismantled yachts and their food and gear had all been loaded into a goods wagon, and we said goodbye until our meeting a week later on the shore of the Aral Sea.

From a French magazine that evening I saw that there were still quite a few "madmen" in this world

of ours. Brigadier-General du Bousset had written of a trip made on wheeled yachts across the Sahara. He had headed a venture in which Frenchmen, Englishmen, Americans and Belgians participated.

The winds, he related, blew with fantastic force and the party covered 1,900 miles in 32 days. They had been accompanied by lorries loaded with supplies and equipment, and by two light aircraft, and had been in

continuous radio contact with a desert military garrison.

Of 20 yachts that started out, only eight finished the course safe and sound.

I realised that our amateur expedition, which had no lorries or aircraft or radio communication, would only be an initial reconnaissance into the desert.

By the Aral Sea I saw red and blue teets, three white sails and four

men with peeling skin burnt almost black by the sun.

Even in the desert when they bivouac for a while, men seem to gather live things around them. At the entrance to one teet, a hairy tarantula lived in an empty haked heans tin. Two hedgehogs were scratching around in a wicker basket, and a little kitten had the rao of the camp. To cap it all, in the very centre of this wild but home-like settlement

a large, very serious looking tortoise walked round and round in a circle, tethered by a nylon cord.

They were all ready to set sail, but for one thing—there was no wind.

Oh, for a wind! A good north-westerly! And here it was at last. In 10 minutes we had broken camp; the tents were rolled up and stuffed into the baggage compartments of the "yachts", along with nylon water containers, boxes of dehydrated food and our sleeping bags.

The Preserved Food Institute had supplied the team with experimental food on the undertaking that they would calculate the amounts they ate and weigh themselves regularly. In the first week, fish from the Aral Sea supplemented the diet, but even so the members of the expedition lost over a stone between them.

The sails of Vladimir's yacht filled out, and at a moment when everyone happened to be looking the other way the craft decided to show its paces. Unmanned, it broke away from its mooring and sped along the sandy spit towards the sandhills.

Our captain broke all sprint records, I feel sure, managing to catch up with the runaway and "bridle" it. His face was one great beam of joy—at having caught his yacht, and at the knowledge that this contrivance actually "went".

The three sails were quivering in the wind. A slight adjustment of angle, and we would be off. We sped away! We were actually sailing! It must be the feeling parachutists have at the moment the "umbrella" opens up over their heads. I've heard that

they burst into song just then. We yelled our heads off in our excitement.

Rubbing the lenses of our cameras, to keep them free of dust, Igor and I dashed off on foot towards the sandhills to get a good shot of the yachts as they rushed along the beach.

Thirty miles in three hours. This was more than we had hoped for at the first try. At sundown we got in a fine mess, with the yachts more on top of us than we on them as we thumped over sandhills covered in thorns and thistles, for half a mile.

But it was a start. The following morning would have delighted anyone except us. The wind had changed and was now coming at us head-on.

We drank tea, then held a conference squatting on our heels and drawing diagrams in the sand. The route, it seemed, would have to be adapted to the wind. That was the first point. Then the yachts on the dunes would have to travel as light as possible. It was a sad moment for Igor and me—as passengers, we would have to be left behind.

After some of the food reserves and equipment had been unloaded, we had our last cup of tea together, and a parting sing-song.



When it was all over and they were back in Moscow, they came to see us at our editorial offices.

We greeted them enthusiastically. "How are you?"

"All safe and sound. Leave's over now, and we have to be back on the job tomorrow."

"Well, tell us all about it."

"Well, we covered the route successfully. Including the zigzagging, we covered about 600 miles and all told it took us a month.

"Of course, we weren't on the move all the time. We spent a lot of time waiting for the wind. Our average speed was about 12 miles an hour, but there were times when we dragged along over the sand and hummocks at walking pace. On hard level stretches we made more than 50 miles an hour. That's a good speed, and it certainly made us happy."

"Did you have any problems or misbaps?"

"Oh, yes, we had trouble enough. We had to make repairs, and that's not too pleasant when you're on the road. And the heat was terrific. A temperature of 107 degrees F. is not to be laughed at anywhere, and down there we had nothing but sand all around us.

"We had enough water, but it was always hot and tasted awful. We remembered a way they had in ancient times to make water taste better by putting a silver plate in it. We went without food for two days and had to hunt for tortoises. I hope you won't hold it against us, but we had to eat our pet, too."

"What about the dehydrated food the Institute supplied?"

"It wasn't too bad. But to tell the truth, those Army biscuits were the best and most reliable food we had."

"Did you come across anyone else in the desert?"

"Mostly shepherds. They gave us

camel's milk. They were very curious about our land-boats, and made quite a number of cracks about them. Then they wanted to know how much we were being paid for this kind of work."

"Did you reach Kzyl-Orda with all the yachts intact?"

"No, we didn't manage that. Half-way, one of the yachts got stuck in the sand when we were doing about 30 miles an hour. The mast shattered to bits and the yacht looked like a crashed plane.

"The yachtman got off with hardly a scratch, but he took a flying dive into the sand and landed six yards away. We did the rest of the trip with two yachts."



"What do you think was the hardest part of the route?"

"Near Lake Kamyshtibash, I would say. There is a lot of mounds and hummocks there. But we were rewarded for our sufferings. The lake is really very beautiful."

"And what about your main conclusions?"

"We are very pleased. Pleased as tourists on holiday, for we had a great many new experiences and saw so many interesting things and places in the course of a month.

"We are also pleased as engineers. The construction of the yachts revealed no errors, and stood up to gruelling conditions. We have a good idea now of how they should be constructed, if there were any great demand for sporting purposes."



Drawing by Valeri SUDAREV

The Cossack who went to London



by Tatyana KONSTANTINOVA

from the magazine NEVA

In 1813 a Don Cossack named Zelenukhin was sent to London with a parcel for the Russian ambassador. Not long before, the 60-year-old Cossack had fought against Napoleon's troops when they invaded Russia, and he had been awarded an English decoration and other medals.

He wore full Cossack attire, and with him went his horse. At that time Russian cavalrymen were something of a legend in Britain, where people were full of admiration for their exploits against the French army.

Stepping ashore from the ship that took him to England, the Cossack mounted his horse and lance in hand, slowly rode to the Russian Embassy amid storms of applause from the crowd, which associated him with the Russian victory over Napoleon. He was showered with gifts.

London kept up its interest in its visitor for a long time. Zelenukhin trained a British cavalry detachment in Cossack tactics and it delighted spectators with an exhibition of a Cossack "avalanche" attack.

The Prince Regent entertained the Cossack at his palace, where Zelenukhin conducted himself with exceptional dignity.

The Prince offered him 1,000 guineas as a gift, but Zelenukhin declined it without hesitation. He was then offered a house where he could stay in Britain for the rest of his days, but the Cossack said he would rather return to his native Don country.

The Prince presented him with silver-decorated replicas of his arms and horse's harness, as well as a cane and a spy-glass, in return for the Cossack's own arms, which the Prince wanted to keep in London as a souvenir of the visit.

THE ACHING HEART

A Modern Fantasy

by Yuri NAGIBIN

from the magazine
ZNAMYA (Banner)



In March 1940, a dark-haired young man marched up to a magazine stand and with studied indifference inquired: "Have you the latest issue of *Ogonyok*?" The pose did not deceive the experienced news-vendor—he immediately guessed that before him stood a fledgling author. His intuition was correct. That week *Ogonyok* had published the first story of 20-year-old Yuri Nagibin. Since then almost three decades have passed and today Nagibin is a well-known Soviet author. He has by and large remained faithful to the novella form, with an occasional departure to scenario writing or the short story. One of Nagibin's stories, "Deserted Road," was published in the May 1968 issue of *SPUTNIK*.

KOSTROV STOOD at the window and gazed out into the hospital yard, or rather into that small corner of it formed by the yellow, peeling wall of the surgical block and a rusty, permanently barred iron gate. A scraggy tree, still bare in the early Spring, inhabited this part of the world, but what kind of tree Kostrov did not know. Beyond the tree was a door which appeared to have grown into the wall, and nearby lay an overturned urn. Above it all stretched the smooth, tight, blue canvas of the sky.

Kostrov sized into the yard a full half-hour, but his familiarity with the scene did not grow. The yellow wall, the gates, the door, even the mournful tree remained strange. Perhaps only the sky evoked a chord.

He was unconsciously carrying out the doctor's orders: leave everything to do with your illness behind you, don't take anything with you across the threshold, neither memories of your doctors, nor of the hospital atmosphere, nor your own sufferings, doubts, fears. It's all over and done with. You will never have occasion to recall what for so long made up the bulk of your life. Don't clutter up your mind with useless *besa-a-bras*.

Excellent advice! Kostrov followed it. He did not allow the scene to penetrate his mind, he did not respond to anything except the sky—but after all, across the threshold one would see the same sky as from the hospital window.

Yes, he had freed his mind from any extraneous matter, even from gratitude to those who had saved his life. Why should he be grateful? Had the doctors saved him, Kostrov, the one and only Kostrov? No, they had performed an essential experiment, a little frightening in its daring. He, Kostrov, was a miraculously living guinea pig, an exception-

ally lucky guinea pig, the star experimental animal. He had lived through it, would continue to live until his death came from other causes; he had survived to become the biggest sensation of the century, the first man with someone else's heart.

Yes, the miracle had occurred, of this there was not the slightest doubt, and it was not for his own good he had remained so long in the hospital, but for the benefit of science. But sometimes it seemed to him as though his doctor was unsure of his psychological equilibrium, of his fitness for life with someone else's heart.

"What are you afraid of?" Kostrov finally asked him outright.

It seemed as though the doctor had been expecting this question and still was not prepared for it. In his heavy bass voice, a note of uncertainty sounded for the first time: "Did you ever read the autobiographical novel by Peter Freuchen, the Danish traveler?"

"No, never even heard of him."

"It's the story of a man who gives up the medical profession and turns polar explorer. A badly injured man was brought to the clinic in Copenhagen where the doctor was working. The struggle for his life went on for months. He hadn't a whole bone in his body. He was put together, sewn together. The doctors won."

"When he was leaving the hospital, unsteady on his legs, to re-enter the world of light and sun, all the doctors and nurses saw him off with tears in their eyes; he was a man they had re-created. The new-born Adam started to cross the street, and was killed instantly by the first and only motor car in Copenhagen. The young doctor was disillusioned with his profession, and finally left for Greenland."

"Are you afraid that I, too, will lose my new

life so stupidly?" asked Kostrov. "In any case, my life's not in danger from a car accident."

"And why not?" the doctor was surprised.

"Theory of probability—the same heart can't be involved in another fatal road accident."

Kostrov knew nothing about his doctor beyond the fact that he had been knocked down by a lorry and mangled so badly that he was unrecognizable. He had had no documents and no-one had come forth to claim him at the mortuary. Perhaps it was all a made-up story for his benefit, to hide the identity of the donor, but somehow it seemed it was true.

"You've taken my story too literally," the doctor said. "Road accidents are not the only danger."

"I see, you mean the danger lies in myself, it may be too much for my brain?"

"You have a good mind, it's too bad you are so unlearned."

"You think I've read so little?" laughed Kostrov.

"I'm not talking about King Solomon's Mines or something. You've probably read too much of that stuff. I'm talking about real books which lead to an understanding of oneself and one's surroundings. Well, don't engage in moral self-probing, forget the mythology surrounding a very ordinary organ called the heart. You have had an operation which is essentially no different from a kidney transplant."

"Some day science will be able to replace all organs, and it will be taken as a matter of course. But you are the first of a kind, and you will be living among people who will often be curious, inquisitive, tactless. Don't let yourself be knocked off balance. And remember, that heart which is beating so rhythmically in your breast is your heart, you have a right to it. No mysticism, no Dostoyevskian moods."

"You are starting a new and wonderful life. You have never known what it is to enjoy good health. Try to utilise your new life well. You are the first person who has had the chance to start all over again."

Kostrov never did understand what the doctor was driving at. Probably the doctor was afraid of the effect of a healthy body on a psychology poisoned by long illness.

"I haven't had enough education to under-

stand what he means," thought Kostrov. "I don't even know what kind of words I could use to think about it all. I feel there's something to be curious about, but I can't say what..."

* * *

Kostrov had been ill since early childhood. In fact, only in his first year of life had he enjoyed good health, and naturally he did not remember that year. His earliest memories were of a had throat, damp sheets under his fevered body, the little table with medicines, the slippery thermometer under his arm, the cold hands of the doctor and the stethoscope which crept over his chest and back.

His tonsils were removed, but they had already done their work. His heart had been affected.

He started on an uncertain existence, a round of children's sanatoria, constant breaks with his family and home, half-schooling, weeks and months of real illness, a childhood without football or a bicycle, a husbanding of each movement, and fears of every kind: perspiring night fears, melancholy daytime ones stabbing at the brain in the midst of the slightest gaiety, any period of forgetfulness.

He did not know to what extent the other children in the sanatorium shared his fears; they never talked of their illnesses; but he knew that they, too, lived in fear, in awareness of their vulnerability, their inferiority, their difference from other, normal children.

He became fond of light reading, dragged himself with adventure stories. He was a poor student, careless and lazy. He did not believe that study would ever be of benefit to him. He certainly did not want to bother with college, but took some very elementary course of draughtsmanship.

And then, unexpectedly, his health began to improve. His weakness and sweating fits disappeared, he could even ignore the lift and climb three flights of stairs without panting; he no longer woke up in the middle of the night in a panic that his heart had ceased to beat. His body revealed hidden resources and he began really to believe that he had been granted the sole and impossible wish which meant survival. He got married, started to work for his college entrance examinations,

Just before his 23rd birthday he had a sudden and grave relapse. To the hospital he could read the fearful verdict in the eyes of the doctors and nurses.

And then came the miraculous cure with someone else's healthy heart in his breast.

A wonderfully sound heart, and he if anybody could judge. He wondered if its former owner had considered its excellence a source of joy or simply taken it for granted. After all he, Kostrov, was not thrilled by his nose, ears, stomach, lungs. But he was constantly aware of his new heart which had presented him with calm, even, deep breathing, a steady pulse like the ticking of a metronome and a sort of pleasant tickling sensation at the back of his shoulders as though he were sprouting wings. It seemed to him that all he needed was to take a good run and he would fly, so much power and lightness did he feel in his body.

The simplest actions, so potentially dangerous in the past—bending down to tie your shoelaces, getting out of bed in the morning, picking up a dropped object, all paid for by a darkening in the eyes, a thudding heart, a damp forehead—today were a source of pleasure.

How easily people live, he thought. He forgot the marvellous surprises that awaited him on his release from hospital: to jump on a moving tram, to run up the stairs to his flat, to go swimming in the heated pool in the coldest weather, perhaps to take up mountain climbing. He would buy himself a tennis racket with tact, sing strings, as had troubled his childish imagination, and a light stripped-down racing bike.

He could go out of town mushrooming or berry picking, go hiking, hunting, fishing. He would exercise his body and whip it into shape, make it worthy of his wonderful heart. He would take everything life had to offer. He wouldn't start smoking, but he would certainly learn to drink vodka and wine.

Kostrov had believed that the doctor would want to see him once more before he left hospital, but it didn't turn out that way. Obviously the man had intended it so, to cut the strings and give Kostrov the chance to start on his new life independently. The doctor was probably right.

Without the least confusion, Kostrov

walked down the worn hospital stairs into his new life, into the embraces and tears of his mother and wife, into their helpless gropings over his face and body. And still he was a little sorry that he had not seen the doctor once more, something had been left unsaid....

Kostrov could not understand why these women were crying so bitterly, why they were clutching at him so desperately. Was it because they were afraid he would disappear or because they doubted his authenticity? He had grown away from them, their cold tears were unpleasant on his cheeks, and so were their damp mouths and their untidy and weeping appearance. They embraced him, but he stared out through the glass doors where he sensed freedom, air and sun, and he passionately wanted to get out.

At last they calmed themselves, his wife took out her compact, and his mother, having taken possession of his small bundle of possessions, had pushed into the street where a taxi awaited them.

After a short struggle—he had wanted to sit beside the driver, but his mother insisted that he sit in the back with his wife—they drove off. His wife grasped his hands tightly in her own and it seemed to him that this demonstration of tenderness was unnecessary.

* * *

He had no desire for physical contact or demonstrations of affection. He felt close to the streets, the trams, the trolleybuses, the houses, the crowds; to the ice-cream and halloo vendors, to the cyclists, the children, the shoe-shine men; to the bare bodied and poplar trees, to every animate and inanimate representative of the outside world. But this feeling did not extend to the people sitting with him in the taxi. He had the feeling that both women, old and young, had imposed on him the power of their tenderness by some dubious right known only to themselves. He had returned from too great a distance simply to slide into a past life.

"Why don't you ask about anything?" his mother tearfully began. "You sit there like a stranger!"

"What am I supposed to ask about?" Kostrov was genuinely astonished.

"Well, how we got along without you,

about your friends, about the factory . . ."

It's easy to imagine how you got along without me, he thought, but did I have friends? I can't seem to remember. We used to have guests but they all drank, ate, smoked too much and made too much noise for me to feel at ease with them. And as far as the factory is concerned, I couldn't care less. Mother's the manager of the plant, it's perfectly understandable that she's interested in everything connected with it, but a lowly member of the staff like me doesn't have to burden himself with such considerations.

Unexpectedly to himself, he said aloud, "I won't go back to the plant."

"What do you mean?" his mother exclaimed in a frightened voice.

"I want to prepare for college."
"Good boy!" His mother wept tears of happiness.

She was always so upset that I never wanted a higher education. But she never blamed me, not even with one word. It's pretty wonderful to have a mother who lets a married son study instead of work.

He looked at the back of his mother's head, at the scraggy bun resting on the Pension lamb, rather worn collar of the ugly man's coat, and coldly reflected that although she had worked all her life in a garment factory, she had never learned to dress properly.

"You're now completely, completely cured?" she asked.

"I should say so!" he replied absently.

Suddenly he felt disquieted. The car had left the hospital area and was now hurtling forward in a thick stream of traffic. It seemed to him that the driver was careless. He supposed he had become unused to the mad traffic of Moscow streets, and for that matter he had not often taken taxis, especially during the day.

The street swiftly gathered to itself the cars, lorries, trolleybuses, motor-cyclists, sucked them into the yawning blackness of tunnels, and with every pore in his body he felt that this would not end well, that they would be squeezed and crushed like a tin can.

The mother was talking about something, probably her everyday affairs, but he did not

hear her, only experiencing a sense of irritation with the voice, a feeling that it was distracting him before the impending catastrophe. And in a second it happened: the car's brakes squealed, he was flung forward, then back, he screamed and for a moment lost consciousness. When he came to himself, the taxi was screeching along and his mother and wife were sitting with frozen features.

"I thought we'd crashed," he muttered.

"Oh no," the driver cheerfully replied, "just a close one."

"You used not to be so nervous." His mother was upset.

"I don't feel like ending up in the next world again," Kostrov replied with false jocularity. "Everyone's nervous before a new undertaking and it's as though I've been reborn."

He knew that this was not so, but didn't know himself the reason for his blind panic.

And there was his home, the two-roomed flat, where he and his wife occupied the big room and his mother the small. Without emotion he glanced at the light Finnish furniture with its red cushions, his desk, the wide, low double bed. So it seemed as though he had no affection for his home. Suddenly he felt forelorn.

When he had realised that he would live, he had had a poignant and tender image of home, family love, dependability and, without concrete faces or objects, that image had settled in his soul. Apparently the future had become confused with the past. Tormented by his illness, he had been driven into egotistical dejection, he had never melted amid family joy, he had never experienced that tenderly happy love for his dear ones that he had imagined in his hospital loneliness. It would come now when he could live more fully, generously, could integrate himself. And again he sensed a kind of falseness in his reasoning.

"Anything to eat around here?" He strove for a bantering tone in order to dispense the feeling of stillness. "I've developed a formidable appetite."

"Oh you!" his mother smiled painfully,

"The dinner we've prepared . . ." and suddenly

she wept, a rain of tears out of faded greenish eyes.

"What's the matter?" asked Kostrov, affecting concern to conceal displeasure.

"Nothing . . . understand . . . it's such joy!"

"So mother's lying, too," he noted to himself, "I wonder if the wife will lie as well?"

It was just after eleven when they went to bed. It hadn't worked out, even though on the surface it seemed all right. The dinner was good and his mother's friends had telephoned and his friends, and no-one was tactless, everyone was warm and concerned, but he remained untouched; he did not feel any contact with people.

They had decided not to invite anyone that night, to spend the unique evening within the family circle. They broke up unexpectedly early because they had nothing to talk about. The wife was silent by nature and the mother, for all her easy talk, was not able to keep up the conversation single-handed. If her son had only asked about something, shown the slightest interest in their life . . . but he sat silently, now and then smiling vaguely.

All of a sudden she was tired, her soul shrivelled and she sighed heavily and as though to herself murmured, "Nothing matters, the important thing is that you're back."

But had he come back? Kostrov was not sure. To return fully meant to return to illness. But he was not ill and therefore could not accept his surroundings as familiar.

"Perhaps I'll sleep on the camp bed?" his wife said.

"Why should you?" he laughed. "Have you grown awry so much from me?"

After saying this he felt embarrassed. It seemed to him that he had blurted out something indecent. He himself had grown away from his wife so much that he no longer felt they were "one flesh". Out of the corner of his eye Kostrov watched his wife unbutton her blouse and free her full shoulders. He approved of the soft lines of her neck and back.

Then she began to pull her tweed skirt up over her head and it caught on her hairpins. Kostrov was swept by agitation. "A beautiful woman," he thought, "I'm lucky."

"Don't stare!"

Kostrov hastily averted his eyes and only then realised that such shyness had not been part of their past relations—his wife had always tranquilly appeared naked before him. That meant that she too felt a strangeness now.

Had he loved his wife? More than likely the illness had affected him in this sphere as well. He had been impatient to make use of the glimmer of light in his darkness and had married the first girl who had attracted him. Of course, it hadn't been love. But did she love him?

Kostrov slipped under the blanket. It was good to feel the taut coolness of the starched sheets. And then the bed sagged as his wife's large body stretched out beside him. He was drowned in an incredible, shameful, animal lust for that body. He turned and brutally pulled the woman to himself.

* * *

Afterwards she cried. Why do they cry all the time? he wondered. She became suddenly talkative, which she had never been, especially in bed. It had never been so good, so fulfilling, she was saying, but she wasn't herself, it was as though something forbidden had happened, as though she had stolen from someone. She touched his face with the tips of trembling fingers, convincing herself that it was indeed he, her man, the only man in the world for her.

But he could give her nothing, he had been emptied, he was tired and indifferent. The storm which had swept him did not leave him enough strength to pretend.

She nestled down on his shoulder and he guessed that, in spite of the tears and uncertainties, she was not unhappy at this moment. Her trusting flesh, the beat of her body, her even, calm breathing were tokens of contentment.

He lay with open eyes, not even attempting to go to sleep. Through the window he could see the city sky and barely visible stars, dimmed by electric lights and seeming even more than usually remote from the earth. It seemed to Kostrov that his real life lay somewhere beyond the furthest star.

In the morning he gazed into the sleeping face of his wife, an ordinary yet mysterious face, glistening slightly. It could have

revealed something to him, prompted something, but the face was as impenetrable as a blank sheet of paper.

In her sleep she sensed his probing eyes and quietly whimpered. He turned away to the window. In the mist an ash rose dawn was breaking.

* * *

Kostrov did not understand himself or his place in the life restored to him. At times he thought someone had made a mistake, returned him to the wrong place. He couldn't bear to stay at home. Not only because his new, healthy, marvellous heart demanded exercise—it made him wander the streets endlessly, took him into the country, into the April fields and budding woods—but because at home he felt an imposter.

There was no question of beginning to work on his entrance examinations, but no-one complained of his idleness. Both his wife and mother treated him like an unfamiliar, fragile valuable given to them for safekeeping. His mother tried to keep within the boundary of everyday necessities and his wife, absorbed in the night, did not try to break the magic circle of uncertainties.

He lived strangely. Fights of stormy physical happiness, from a walk, exercise, swimming, would be replaced by a pitious lossness. He could not find himself either at home or in the circle of his so-called friends.

It seems that people live in an enormous world, a limitless world called humanity. This is false: our life is a performance with a limited cast of leading characters; the rest is the crowd, the corps de ballet, the chorus, something amorphous, conditional, leaving no imprint on our consciousness.

The people who now surrounded Kostrov had been part of his life many years ago, the majority since childhood or adolescence. Each one carried in himself a part of the past, a past Kostrov was as indifferent to as the present.

At times, at night, before falling asleep or in a half-awake state, he was pierced by a sweet belief that the important, the essential people would still appear, that he had simply forgotten them in the nightmare of illness and dying. But then he would catch himself

up and know that he was face to face with the companions of his life, not counting those who had long passed into eternity: his father, who had died of heart failure before Kostrov was even five, friends in the sanatorium who had died at various times.

He searched, the same way people and sometimes whole nations have searched, for the Promised Land. It did not matter if it was the land of milk and honey or a desolate, abandoned rock—what mattered was that it was your land, the only one, and everywhere else you were a stranger.

He took in the faces of all passers-by, trees, fences, posters, window displays, snow-clearing machines, benches and urns on the boulevards, lamp-posts, horses, sparrows, shaggy crows' nests, pigeons pulled up with importance. On his way to the stadium or the swimming pool he never went the same way twice, he always chose a different street, a new lane, through a different yard, even if it meant a longer route. He greedily took in the façades of blocks of flats and courtyards and harkened to himself: perhaps he would respond by an unconscious tremor of the heart, a swifter coursing of the blood?

He hated his old dead bear, the source of all his pain and suffering. He thought of it as a rotten, wormy mushroom, but it had contained that tender subtle memory of himself which he needed once more to build up before he could be fully healed.

About some things he had already begun to guess. It seemed to him now that even in his first existence he had never loved his wife. Had he loved his mother? He did not know. It seemed that a person who had been as ill as he was not capable of real love. The fear for himself was too constant, too unintermittent. Perhaps in some people the fear and closeness of death do not quench love for others; but obviously he, Kostrov, did not belong to these chosen ones.

But still, he couldn't have lived only in fear and silencing. Even he must have had moments of selfless joy, of happiness and kindness when he forgot his illness and loved something outside himself. And so he searched for these moments, preserved in the images of the objective world, hoping through them to resurrect a live soul, to acquire the ability to

love and weep.

And these blinding explosions of joy, even happiness, would occur unforeseen, inexplicably. They came about through the most unexpected and strange sources: once at the sight of an old pigeon-loft in a tiny yard off a lane near Xenia Godanov's apartments.

It was an ordinary wooden box covered with fine, rusty mesh wire. No matter how he worried, he could not grasp the importance of the pigeon-loft in his "pre-existence". He was quite aware that the sensation of happiness was of the most unconscious recognition, that it did not at all follow that at some time the pigeon-loft had been a source of pleasure. If he had been a lad who chased pigeons in the yard, the riddle would have been easy to read; as it was, he had never chased pigeons.

Perhaps he was looking at it wrongly: the pigeon-house had absorbed the coloration of something else, had become a kind of symbol, whereas the real meaning lay not in it, but in the apartments of Xenia Godanov. Perhaps at one time he had been agitated by the sad and tender image of the unhappy daughter of Boris Godunov,⁶ guiltless before man and God, but doomed to suffer because of her closeness to a crime? No, he could find no response in himself to the daughter of Godunov.

In time he was convinced that neither a direct nor a sidelong approach was helpful in his guesswork. He gazed at pigeons for hours, watched their flight, take-off, landing, their quarrels over scraps and once out of the blue felt an almost painful tug of happiness at the sight of a pigeon. What had caused the sensation, whether it was because of the place, the time of day, the light, he did not know.

Once after a training session he was walking down the long corridor that led from the stadium to the shower-rooms, a

Turkish-towelling bathrobe over his shoulders. On the way he ran into four girls carrying bags. His gaze skimmed vacantly over the unknown faces and rested for a moment on a round-faced, freckled girl with heavy grey eyes. She was by no means the most attractive girl in the group and was notable only for a closed, austere expression.

The group posed noisily by, with laughter, raised voices and a delicate girlish fragrances, and suddenly he wanted to look once more on the girl with the heavy, austere eyes. But the front door had already slammed behind them and he was wearing nothing but the robe.

A few minutes later, under the shower, he again remembered the grey-eyed girl and groined with pain. A feeling of irreplaceable loss engulfed him. Accompanying and deepening the pain were little bubbles of happiness in the region of his heart. What had that very ordinary girl got to do with him? What complex or simple ties bound them in the past? Was it worthwhile disturbing the past?

What if it was a momentary flare of passion? But if it were passion, then why no sooner born than transformed into a dull despair, hopeless loss? Falling in love is a light feeling, a shadow of happiness and a shadow of sadness. But he felt as though someone had driven a knife into his heart.

Angry with himself, he turned on the cold water tap. It was as though an icy compress lay on the top of his head; the numbness spread from his neck to his shoulders, his back and crept down his body, but the heartache was not numbed; it was independent of the rest of his being.

Now his aimless searching acquired a purpose: he had to find the grey-eyed girl. She would help him untangle the skein. But it was a hopeless task. Thousands of people passed in and out of the winter stadium, scores of sports groups of various kinds functioned and he didn't even know if she was a sports enthusiast. She could just as well be a doctor, a nurse, a masseuse, or simply a fan. The grey, austere eyes that for him were an outstanding feature, when mentioned to people only evoked a slightly

⁶ Regent of Russia after the death of Ivan the Terrible in 1584, and said to have strangled the throne after murdering the Tsarevich in 1591. He was also rumored to have caused the death of his daughter's fiancé.

mocking air and a shrugging of shoulders.

The longer he searched for her, the sorer he was that she was not merely a reflection of some past emotions: in the dim past he had known her, known her name, and she had meant something in his life.

A frightening thought arose: if he accepted that his former heart had the right to memories, then the present heart beating in his breast must possess its own memory. Nonsense. Delirium, mythology, as his doctor had said. Now Kostrov began to penetrate to the sense of the doctor's forebodings. But impossible, the heart is not an empire unto itself; having "agreed" to live in someone else's body, it is obliged to acknowledge its laws.

There was one way of erasing all the "mythology": to love your kin, to trust your friends, and then the imaginary images which caused such pointless suffering would fade, the cursed spiritual madness would end and real life would begin.

* * *

He began to stay at home, he surrounded his mother and wife with attention, he kept reminding himself how much he was loved, how much care, patience, tact and forgiveness were bestowed on him. And what miserly repayment he had made!

He began to live their lives, asked his mother in detail about the affairs of the factory, brought them bunches of mimosas and crocuses, helped around the house and finally, to please, began working on his entrance examinations. He was shaken one day when he overheard a telephone conversation between his mother and one of her old friends. His mother thought he was out and spoke in that loud voice which the elderly and slightly deaf employ on the telephone.

"He's like a changeling . . . I can't understand anything—but sometimes it seems to me that we got back a robot. He knows all the words and the rules of behaviour, but inside he's cold as ice. No, no, I have nothing to complain about, he has never been as attentive as now. But behind that there's emptiness. I don't feel him. I don't recognise my blood . . ."

He didn't hear any more. He was astounded and shocked not so much by the words, which revealed the similarity with which they responded to each other, as by the coldness of her tone. She spoke of him as of a stranger, who irritates rather than saddens. He did not say anything to his mother, did not change his behaviour, but his feeling of homelessness became intolerable.

* * *

Kostrov was returning by Metro from the library. At the Sverdlov Square station an elderly lady in a round fur hat and a coat with a collar of the same fur left the next compartment. Pepper-and-salt hair was gathered neatly in a bun and lay on the worn Persian lamb collar. He remembered returning from the hospital; he had sat behind a similar grey bun on a fur collar.

Standing near the door, Kostrov absently skimmed over the faces of those leaving and entering the train, but the elderly lady again for some reason attracted his glance. With incomprehensible curiosity he looked at her ordinary face with its flushed appearance, the tired eyes with wrinkled eyelids, the mole at the corner of a sad, pale mouth. Her face was neither beautiful nor kind, but something in it astounded Kostrov. That tired, worn, cheerless and rather hard face, with its too frank imprint of the years, the grief, losses and disappointments, grabbed Kostrov out of the habitual, spun him and carried him off like a whirlwind.

There was a terrible drop into a bottomless abyss, into darkness and the damp suffocation of pre-existence, and then an unbearable light from which there was no escape, the taste of sweet milk on the lips and that blissful half-fainting sensation which comes on a high swing, at the best moments in early childhood, when night fears have been driven off and daytime grievances, the great feeling of being protected, the comforting guarantee provided by the closeness of the most necessary and all-powerful being in the whole of creation. And all this was expressed in one short word, which involuntarily and

pitifully issued out of the lips of Kostrov as he threw himself against the crowd entering the compartment: "Mother . . ."

The woman heard this strange, childish cry issued by a harsh, male voice. The voice was unfamiliar and the cry of coarse was not directed to her, but nevertheless she turned around with that habitual pained expression with which she responded to any reminder of her missing son.

She saw a young man with a sweating, crazy, presumably inebriated face who was striving to break through the crowd. And although she had not been deceived for an instant, the fact that the stranger looked the same age as her son, that he was alive, was brimming with strength of life, when the body of her boy had rotted away God

knew where, infuriated her.

"What's the matter, are you drunk?" she shouted with loathing.

Kostrov was tightly ringed in the crowd. Someone had already called for the militia, and a uniformed man was moving heavily in their direction. Kostrov noticed nothing. All he knew was that in a moment the woman would disappear and in despair he shouted, "Where are you going?"

The woman stopped as though someone had slammed a fist into her body. She did not comprehend what had happened and did not try to comprehend, did not know what awaited her—salvation or doom. All she recognised was the pain in the heart of her son and she flung herself towards the cry.



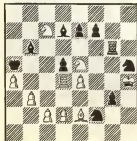
Grand Master fantasies

by Isaac LINDER

from the book .

WORLD CHESS IN RETROSPECT

Among the leading world chess players invited to take part in an international tournament held in conjunction with the Paris World Trade and Industrial Exhibition in 1867 was the Russian grand master, Ilya Shumov. Shumov was unable to obtain leave from his job to attend, but to mark the occasion he devised a special chess problem which he entitled "The Plan of the 1867 Universal Exhibition" (see below). More compositions in the same



The Plan of the 1867 Universal Exhibition, by Ilya Shumov, 1867: Left: Black, top, White, playing up. White to move and win.

Solution: 1. PxP: B-QKt4 (best move); 2. BxB: any move by black; 3. Kt-QB4 check: K-QKt5; 4. Kt-QR6 check-mate.

Shumov's

vein were included in Shumov's *Scachographic* and *Other Chess Problems Including a Complete Chess Primer and Checkmates—Political, Humorous and Fantastic*.

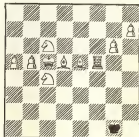
The book was printed in Russian and French, with parallel texts. A symbolic problem entitled the "Sword of Damocles" appeared as a frontispiece, accompanied by a rhymed epigraph referring to brutal policies of the day in regard to subject and persecuted nationalities. The "Sword of Damocles", it said, hangs like an evil fate over the Black King. Why do the Whites persecute the Blacks so ferociously? Is it only because they are black?

Shumov was often quoted in

international chess literature. The periodicals *Stratégie*, *Schachzeitung*, *Chess World* and *Chess Players' Magazine* published his problems and reviewed his book. The opening paragraph of an editorial devoted to Shumov's problems, published by the French magazine *Stratégie*, said: "Behind its rather lengthy title this collection of problems offered by M. Shumov, the outstanding Russian composer of chess problems, hides the truly happy destiny of chess. One opens the book to find chessmen forming a huge sword hanging over the black king. This problem reveals Shumov's profound knowledge of the chessboard." (see below).

The Sword of Damocles by Ilya Shumov, 1867: White, top, Black, playing up. Checkmate in three moves.

Solution: 1. R-QB6 ... etc.



"Shumov's term for allegorical problems. It derived from the Greek *scachis*, chess, and *grapho*, write. "Scacho-graphy," he said, "is the art of depicting objects and abstract ideas on the chessboard."

The article then paid tribute to the allegorical problems, which it called Shumov's fantasies. It said: "It is not enough to describe such compositions—they must be seen on the chessboard, and our readers to whom we are introducing this book will certainly find in it amazing surprises and derive from it unalloyed pleasure."

The German magazine *Schachzeitung* reviewed the book on much the same lines.

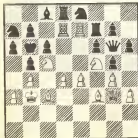
For two decades, from the late 1860s onwards, there was hardly a major world political development

that was not reflected in the art of the Russian composer of chess problems.

For instance, problems based on the 1870-71 Franco-Prussian war caustically satirised the obtuseness of the French generals, which had led to their country's defeat. Shumov's problem, "The Touching Minute", lampooned Napoleon III. Presented as the Black King in a game, he was checkmated despite the fact that he had all the necessary men in front of him—they never went into action.

Napoleon III's virtual surrender of his whole army without a battle

Now test your wits against



"The Touching Minute"
by Ilya Shumov, 1870:
Black, top. White, playing
up. Checkmate in three
moves.

Solution: 1. P-QR4;
PxP; 2. KtxP check;
K-QK;4; 3. B-K2 check-
mate.

was parodied in another problem. On one side of the board Shumov placed all the 16 black men as he would before an ordinary game, and only two white pieces, King and Knight, on the opposite side. The conditions seemed paradoxical, with black to move and incurring a checkmate in three moves as poor as they could be: 1. QBP-QB3: Kt-QB3; 2. P-K4: Kt-K4; 3. Kt-K2: Kt-Q6 checkmate.

Thus was embodied Shumov's idea of the so-called "co-operative checkmate", now a key line in what is known as fairy-tale chess, in which

black helps white to achieve a checkmate.

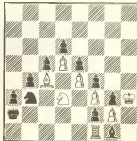
In the mid-seventies Shumov devoted an extensive series of problems to the Slavonic people's war of liberation from the Turkish yoke. In one of these a line of pawns, in the shape of a forbidding mountain, signifies Mt. Shipka, which the Russian troops crossed in Dec. 1877.

Of course, unlike the authors of chess problems today who base themselves on real chessboard situations, Shumov concentrated on problems of a different kind. But in his field he remains unsurpassed.

Grand Master Ilya Shumov...

"Crossing the Balkans",
by Ilya Shumov, 1878:
Black, top. White, playing
up. Checkmate in eight
moves.

Solution: 1-7. K-QR4;
8. BxKt checkmate.



Oceans of coffee

The Swedes are a coffee-loving nation; in consumption per head they hold one of the top places in the world.

In the eighteenth century King Gustav III did much to popularise the beverage. He once reprieved twin brothers who had been condemned to death, on condition that one would drink tea in large quantities for the rest of his life and the other coffee. The King conceived the condition in the nature of an experiment which would determine which beverage was less harmful.

The brothers agreed. Years passed. Each brother consumed ever larger quantities of liquid. Prison doctors were unable to detect the slightest ill-effect in either.

Finally the tea-drinker died at the age of 83. That's why Swedes today drink coffee.



Yards of boot

A giant boot which is exhibited in the Leipzig museum never fails to amaze visitors. Ten hides were used to make the upper. The sole, over 6ft. long, required 220 pounds of leather. A thick wire was used as wax-end, and 70 feet of rope for thread. The boot stands 12ft. high and weighs almost half a ton. The giant was made by a group of shoemakers about 40 years ago in honour of their trade.



Hours of song

A total of 53 operas have been based on the theme of Dr. Faustus. One of them is "Mephistopheles" by the Italian composer Arrigo Boito. It lasts for six hours and ten minutes—but is not staged anywhere today.



Bags of brass

A world record of a sort was set by a band that took part in the national brass bands festival in the Norwegian city of Trondheim in August 1958. The band consisted of 12,000 musicians.

RUSSIAN FOR YOU

УРОК ШЕСТОЙ

LESSON SIX

ГРИПП



У меня голова, как пивной котёл

Толя проснулся с головной болью. Выражение страдания на его лице было настолько явным, что его мать спросила:

— Что с тобой¹⁾, Толенька?

— Не знаю. Мне что-то не по себе²⁾. Ещё вчера голова была, как пивной котёл³⁾, а сейчас она трещит⁴⁾ так, что хоть караул кричи⁵⁾.

— Надо смерить температуру⁶⁾. Принеси-ка градусник из аптечки⁷⁾.

Толя уныло поплёлся в ванную, где висела аптечка. «Везёт мне, как утопленнику⁸⁾, — думал он, с ненавистью засовывая градусник подмышку⁹⁾. — Договорился с ребятами сходить вечером в кино — и вот тебе на!»¹⁰⁾

Его свалил грипп



— Как бы тебя не свалил грипп¹¹⁾, — сказала Толина мама.

— Так что ж, билетам пропадать¹²⁾?

— Вот ещё! В кино собрался¹³⁾! Мне твоё здоровье дороже каких-то несчастных билетов. Ну-ка, покажи градусник!

Толя покорно вынул градусник и протянул его маме.

— Ну вот, так и знала! Тридцать восемь и семь¹⁴⁾. А ну, быстро разденься и марш в постель¹⁵⁾! Сейчас вызову врача.

* * *

Через два часа пришёл врач.

— Ну-с, где наш умирающий? — шуточно спросил он.

Толя лежал, уткнувшись носом в стену. Он был зол на весь мир¹⁶⁾.

— Здравствуйте, молодой человек, — сказал врач. — На что жалуетесь¹⁷⁾?

— Здравсьте¹⁸⁾, — буркнул в ответ Толя. — Голова раскалывается¹⁹⁾. Меня всего ломает²⁰⁾.

— Значит вас знобит²¹⁾? — почти утвердительно сказал врач.

— Знобит, бросает то в жар, то в холод²²⁾.

— Ничего ужасного нет. Вы подхватили грипп²³⁾. Сейчас я выпишу вам лекарство. Будете принимать его

три раза в день после еды. С постели не вставать. Будете вести себя прилично — денька через три всё как рукой снимет²⁴⁾.

— Значит с кино дело глухо²⁵⁾?

— Если я правильно понимаю вашу изящную речь, то да — совершенно глухо, или, как ещё говорят ваши приятели, не светит²⁶⁾.



* * *

Вечером, когда Толин папа пришёл с работы, он зашёл к сыну.

— Тебя, я вижу, совсем скрутило²⁷⁾? — спросил он.

— Да вот, схватил грипп²⁸⁾, — ответил Толя.

— Скажи спасибо, что хоть горло не дерёт²⁹⁾.

— Почему это?

— А кто допал мороженое³⁰⁾ на улице третьего дня³¹⁾, когда было минус тринадцать³²⁾?

Толя виновато опустил глаза.

— Ну, ничего, — сказал отец и потрепал Толю по голове. Следующий раз умнее будешь³³⁾.

— Папа, а долго мне придётся лежать кверху пузом³⁴⁾? — спросил Толя.

— Сколько надо, столько пролежишь. Слушайся врача и скоро будешь как огурчик³⁵⁾.

Толя скорчил недовольную мину.

— Смотри у меня³⁶⁾, не кисни³⁷⁾. Мне ещё мой папа, твой дед, говорил: «Не вешай нос, держи хвост пистолетом³⁸⁾».



Он держит хвост пистолетом

Толя долго не мог заснуть. Его мучили разные мысли. Он думал: «Ерунда какая-то . . . Как можно держать хвост, если его нет . . . да ещё пистолетом . . . А ухо можно держать востро³⁹⁾? Можно . . . А нос по ветру⁴⁰⁾? Пожалуй . . . Интересно, какие ещё есть выражения со словом держать? Держать себя в рамках⁴¹⁾ . . . Держать марку⁴²⁾ . . . Держать язык за зубами⁴³⁾ . . . Держать в голове⁴⁴⁾ . . . Держать карман шире⁴⁵⁾ . . . Держать совет⁴⁶⁾ . . . Держать слово⁴⁷⁾ . . . Держать в тайне⁴⁸⁾ . . . Так держать⁴⁹⁾ . . . де . . .» Тут Толя и заснул.

Утром его разбудила мама. Она смерила ему температуру и сказала:

— Видишь, уже нормальная. Как тебе спалось⁵⁰⁾?

— Как в сказке⁵¹⁾.

— А мы с отцом волновались. Ты бредил и всё говорил «держать, держать».

Несколько русских пословиц и поговорок на тему здоровья

Здоровье дороже богатства⁵²⁾.

Здоровье — всему голова⁵³⁾.

Здоровье всего дороже⁵⁴⁾.

Он чужим здоровьем болен⁵⁵⁾.

Тот здоровья не знает, кто болен не бывает⁵⁶⁾.

Без болезни и здоровью не рад⁵⁷⁾.

От здоровья не лечатся⁵⁸⁾.

Лучше быть бедным, но здоровым, чем богатым, но больным⁵⁹⁾.

(На этой фразе построен каламбур: Лучше быть богатым, но здоровым, чем бедным, но больным).

* * *

Медицинский юмор

Войдя в комнату больного, врач удовлетворённо улыбнулся.

— Я вижу, вам сегодня много лучше⁶⁰⁾, — сказал он.

— Да. Я строго соблюдал предписание⁶¹⁾ на этикетке вашего лекарства.

— Молодцом⁶²⁾! Что там было написано?

— «Держать плотно закрытым».

Пациент: — Доктор, меня беспокоит странная боль. Когда я нагибаюсь вперёд, вытягиваю руки и делаю ими кругообразные движения, сильно отдаёт в левое плечо⁶³.

Врач: — Скажите, а зачем вам делать такие движения?

Пациент: — Доктор, если вы подскажите другой способ надевать пальто, я буду счастлив . . .

* * *

Пациент: — Доктор, вы умеете дёргать зубы⁶⁴ без боли?

Врач: — Не всегда. Вчера чуть не вывихнул руку.

* * *

Жена врача: — Мой дорогой, либо ты перестанешь думать о работе, либо я перестану ходить с тобой в гости.

Врач: — А что же я сделал?

Жена: — Как что? Стоит кому-либо протянуть тебе руку, ты начинаешь шупать ему пульс⁶⁵.

EXPLANATORY NOTES

⁶¹ *What's the matter?*

⁶² *I am not feeling quite myself.*

⁶³ Literally, *to have a head like a brewer's vat* . . .

⁶⁴ The expression is the equivalent of a *splitting headache*.

⁶⁵ *To scream blue murder.*

⁶⁶ *To take one's temperature.*

⁶⁷ This word should not be confused with *anmeka* meaning a chemist's shop. *Anmeka* means *medicine chest*.

⁶⁸ Literally, *to have the luck of a drowned man*.

⁶⁹ In Russia it is usual to take someone's temperature by putting the thermometer under the arm.

⁷⁰ Something like *and there you are!*

⁷¹ Literally, *flu knocks you down*; meaning, *will put you to bed*.

⁷² In the sense, *the tickets will be wasted?*

⁷³ *I like that! To the cinema!*

⁷⁴ 38.7° C. (equivalent to 101.7°F.).

⁷⁵ *March to bed!* Very common.

¹⁶⁰ *To have a grudge against the world.*

¹⁷⁰ A stock medical phrase for *What are your symptoms?*

¹⁸⁰ Colloquial for *здоровье мое*.

¹⁹⁰ Literally, *My head is splitting*.

²⁰⁰ Literally, *I am breaking all over*; meaning, *I am aching all over*.

²¹⁰ Another stock phrase, specifically medical, used widely to describe shivering with fever.

²²⁰ Literally, *to be thrown from heat to cold*.

²³⁰ Colloq. *to catch the 'flu*.

²⁴⁰ Colloq. *in three days or thereabouts you'll be fit as a fiddle*.

²⁵⁰ Very colloq. Something like . . . *there's nothing doing?*

²⁶⁰ Very colloq. The same meaning as ²⁵⁰.

²⁷⁰ Colloq. *To be down in the mouth, down and out*.

²⁸⁰ *I've got 'flu*.

²⁹⁰ Colloq. Meaning, *a sore throat*.

³⁰⁰ Colloq. *To gorge ice cream*.

³¹⁰ *The day before yesterday*.

³²⁰ *Thirteen below*. Equivalent of about 9°F.

³³⁰ In the sense, *that will teach you a lesson*.

³⁴⁰ *To lie on my back* (colloq.).

³⁵⁰ Another way of saying *fit as a fiddle*.

³⁶⁰ Meaning, *be good*.

³⁷⁰ Literally, *Don't turn sour*; meaning, *keep a stiff upper lip*.

³⁸⁰ A strange expression with the same meaning as ³⁷⁰.

³⁹⁰ Colloq. *To hold one's ear sharp*; meaning, *to be attentive*.

⁴⁰⁰ Colloq. *To hold one's nose by the wind*, very much like *keep your eyes peeled*.

⁴¹⁰ Colloq. *To stay within certain limits, to control oneself*.

⁴²⁰ Colloq. *Don't let the side down*.

⁴³⁰ Colloq. *To hold one's tongue, to shut up*.

⁴⁴⁰ Colloq. *To remember, to store in one's memory*.

⁴⁵⁰ Very colloq. Literally, *Keep your pocket open*. Used in the sense *never in a lifetime, when pigs will fly*, etc.

⁴⁶⁰ *To hold council*.

⁴⁷⁰ *To keep one's word*.

⁴⁸⁰ *To keep something secret*.

⁴⁹⁰ In the sense, *proceed just so, keep up the good work*.

⁵⁰⁰ A more conversational way of saying *How did you sleep?*

⁵¹⁰ *Like a dream, very well*.

⁵²⁰ *Better health than wealth*.

⁵³⁰ *Health is the main thing*.

⁵⁴⁰ *Health is the most valuable possession*.

⁵⁵⁰ *Another's health makes him ill*; meaning, *to envy another person's well-being*.

⁵⁶⁰ *The healthy man does not realize he is not ill*.

⁵⁷⁰ *If you have never been ill you cannot appreciate health*.

- 58) *Good health needs no cure.*
 59) *It is better to be poor and healthy, than rich without health. This proverb is used jokingly in reverse. It is better to be rich and healthy than poor and sick.*
 60) *I see you are feeling much better today.*
 61) *I closely followed the instructions on the label.*
 62) *Good lad!*
 63) *To have a shooting pain in . . .*
 64) *To pull teeth.*
 65) *To take somebody's pulse.*



Больной: Доктор, это моя первая операция.
 Хирург (пытаясь успокоить больного): И моя тоже.

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